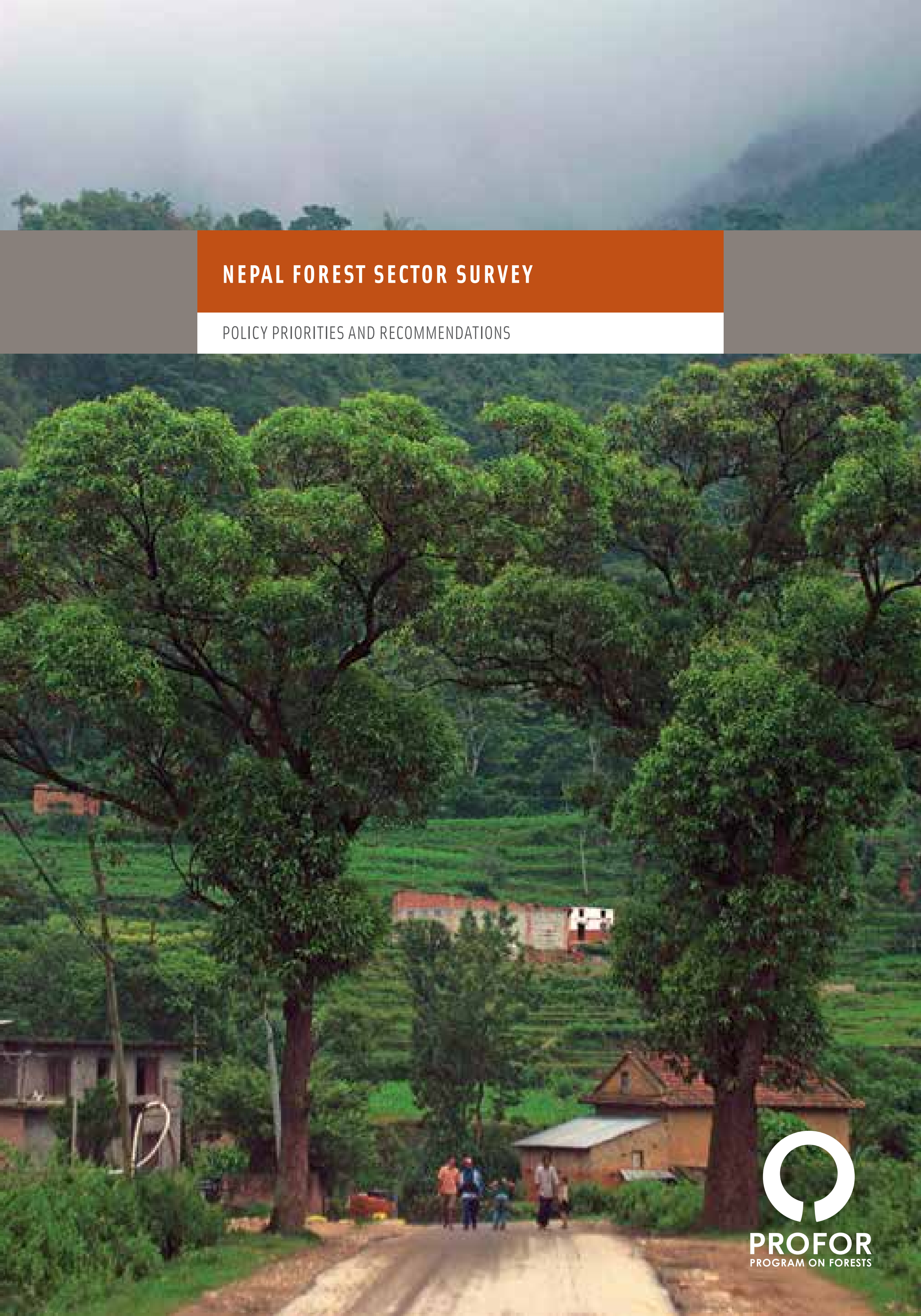
NEPAL FOREST SECTOR SURVEY

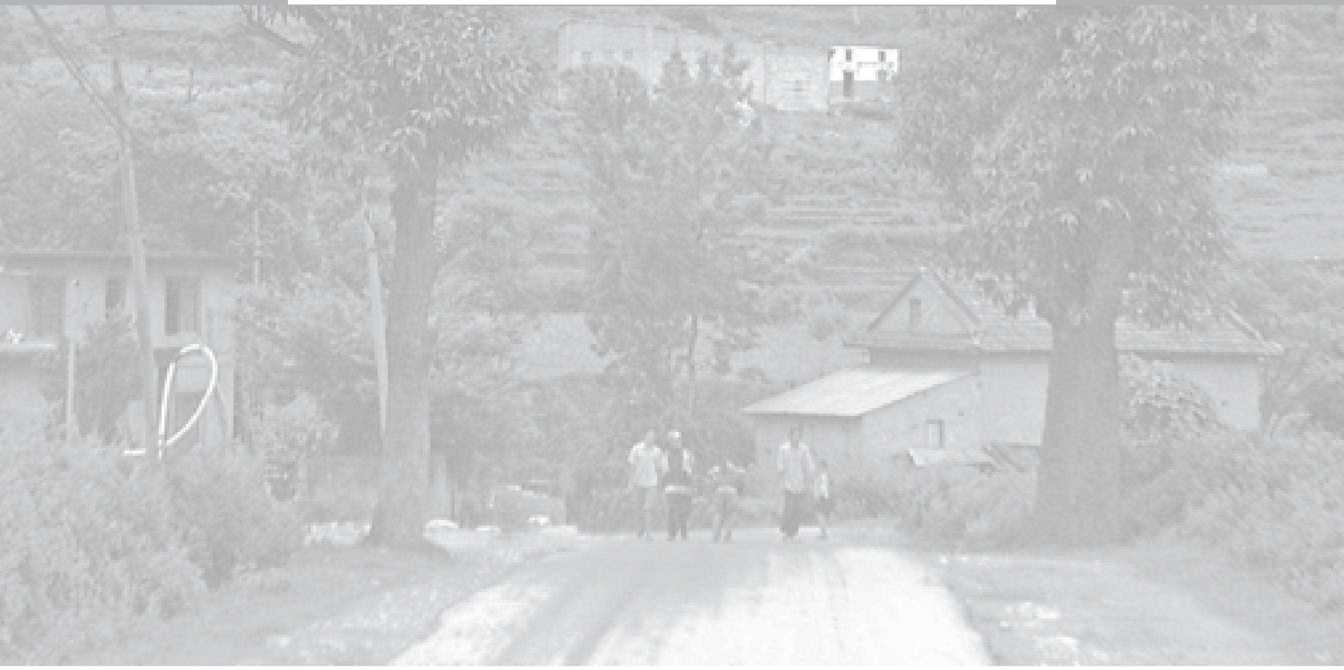
POLICY PRIORITIES AND RECOMMENDATIONS



PROFOR
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NEPAL FOREST SECTOR SURVEY

POLICY PRIORITIES AND RECOMMENDATIONS



Authors: **William B. Magrath, Ashish Shrestha, Bhishma Subedi, Hari Bansha Dulal,** and **Rex Baumback**

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ACRONYMS

CFUG	Community Forest Users Group
DDC	District Development Committee
DFO	District Forest Office
EIA	Environmental Impact Assessment
FMU	Forest Management Unit
GDP	gross domestic product
GPS	global positioning system
ha	hectares
IEE	Initial Environmental Examination
LFP	Livelihood and Forestry Programme
MFSC	Ministry of Forests and Soil Conservation
NTFP	nontimber forest products
NVC	National Vigilance Centre
PROFOR	Program on Forests
REDD	Reducing Emissions from Deforestation and Forest Degradation
TCN	Timber Corporation of Nepal

EXECUTIVE SUMMARY

Forests are among Nepal's most important natural resources. Forests are critical to rural livelihoods for wood energy, their role in compost-based farming systems, and valuable marketable and subsistence nontimber forest products—herbs, fungi, resins, aromatics, and so forth. They are a major component of environmental stability, supporting a rich biodiversity and unique wildlife populations, slope stability, and hydrologic functions. Forest resources support Nepal's appeal as a tourism destination and, of course, there is the value of timber production for domestic consumption and value added for export. Recently, attention has come to the as-yet-unknown potential for forests to yield economic benefits from trapping carbon emissions that could otherwise contribute to global climate change. Despite the importance of forestry to Nepal, and a long history of international development assistance to the sector, there are large gaps in knowledge about the resource itself, and about the policies and institutional arrangements needed to make it perform up to its potential. Nepal's forests must be better managed if they are to fuel sustainable economic development and poverty reduction.

FORESTS AND FORESTRY IN NEPAL

There is a marked dualism in Nepal's forestry sector. In the Middle Hills, the community forestry approach, through which local people are organized to protect, manage, and benefit from forests that are otherwise prone to degradation and overuse, has reached nearly complete penetration and is accepted by most observers as having led to recovery of the Hill forests over the past 20 years. Community forestry now accounts for some 1.2 million hectares, approximately 20 percent of the country's total forest area, and benefits 1.6 million households, making it perhaps the country's most important antipoverty program. It is clear that the community forestry approach generates substantial and measureable livelihood benefits to the involved local populations. Social problems arise within Community Forest Users Groups (CFUGs), including exclusion and marginalization of particularly low-income people and minority groups, capture of benefits by local elites, and ineffective use of community revenues from forestry. There is great scope for increasing the technical quality of community forest management and strengthening systems for the delivery of technical advice to users groups, particularly from government agencies. Second-generation needs and opportunities for the development of forests in the Middle Hills (technology, marketing, conflict resolution, and value-addition) are not being adequately addressed, although there is strong interest from Nepal's international development partners in providing

continued support and assistance. Therefore, the fundamental sustainability of the Middle Hills forests is not seriously challenged, but they face issues of development and maximization of their contribution.

The other main components of Nepal's forest resources, the Terai forests, are at much greater risk. The Terai forests account for approximately 25 percent of Nepal's forest area and more than 30 percent of standing wood volume. By virtue of topography, the Terai forests' access and composition has much greater commercial value than forests elsewhere in Nepal, and the land under forests tends to have greater potential for supporting viable agriculture. In addition, the Terai forests are the hosts of important wildlife resources, including rhinoceros and tiger, which, in addition to their intrinsic importance, contribute to Nepal's potential as a tourist destination. Unfortunately, the Terai forests are being managed poorly, if at all, and are increasingly at risk of illegal logging, encroachment, and degradation from poorly executed logging. Some important progress has been made of late in strengthening protection of National Parks and wildlife resources, and these gains need to be reinforced and extended. Elsewhere in the Terai, the government has not extended its community forestry policy in an effective manner, and has not been able to raise the quality of its own management.

As a partial indicator of the significance of the shortfall in forestry's performance, this report presents estimates of forgone timber revenues. Using conservative figures for production and prices, Nepal's forestry sector could sustainably generate US$180 million a year from timber harvests. In contrast, officially recorded forest revenue decreased from US$9.5 million in 2004 to US$4.18 million in 2006. This shortfall is characteristic across the other sources of value from the forest resource. They are compounded, not compensated, by similar shortcomings in contributions to poverty reduction, biodiversity conservation, hydrology, and tourism.

Overall, the review of the performance of the Nepali forestry sector in relation to specific products and services in this report concludes:

- Actual outputs are well below potentials.
- Deforestation and forest degradation continue unnecessarily.
- Distribution of forest benefits can be inequitable and unpredictable.
- Formally mandated processes are often ignored, and informal and illegal alternatives are increasingly common.
- Community-based management is the only demonstrated success, but community options alone may not be sufficient for all resource management need; a better functioning government role is essential.

FOREST POLICY ASSESSMENT

This report assesses the institutional and policy environment that perpetuates poor performance, by examining the effectiveness of (a) incentives; (b) governance; and (c) resource mobilization arrangements, in bringing forest resources to work for valued social purposes.

Incentives. Incentives facing forest resource users do not correspond to real economic scarcities. Existing royalty and price-setting mechanisms in the country fail to indicate the total rent generated by forest exploitation. This undervaluation of resources promotes excessive harvests and illegal trade. Regulatory mechanisms that could supplement market signals also do not appropriately reflect resource scarcity or encourage an adequate level of resource management. The regulatory tools designed for forest resource management are neither well developed nor properly implemented. Such regulatory inefficiencies in turn add financial and other burdens to community forests and enterprises managed at the local level, often impeding the entry of new community entrepreneurs, in fact discouraging good resource management.

Governance. Governance arrangements in forestry—the manner of acquisition and exercise of authority and control over such natural resources—should assure stakeholders that it is fair, legitimate, and predictable and should promote trust, confidence, investment, participation, and equity. Governance in the forestry sector has become a matter of public debate in Nepal. Shortcomings in the governance of the forest sector, including weak and inconsistent law enforcement, leave open many opportunities for corruption and abuse. Many civil society organizations are active in forestry, and the debate over forestry is at times contentious and divisive. Distrust among stakeholders is high, and together with the general political situation, it makes conflict resolution and agreement on key reforms difficult.

Data limitations and weaknesses regarding illegal activities are inescapable. But, the weight of official investigative studies, media reports, and anecdotal evidence points to serious and potentially growing problems of illegal logging. Moreover, along with direct environmental and other consequences, the clear weaknesses of technical and commercial practice in the management and utilization of forest resources (including planning, setting of silvicultural prescriptions, pre-harvest inventory, tree selection and marking, postharvest log and timber handling and record-keeping, financial systems, and other aspects) contribute to a situation in which widespread illegal logging has become very profitable to the well-connected few.

In addition to urgent reforms and investment in forest management, especially in government-managed forests in the Terai, strengthening law enforcement and anticorruption efforts in forestry in Nepal also requires measures to increase intersectoral and public oversight, which to be effective will also require better coordination, and stakeholder integration.

Resource Mobilization Arrangements. The objective of forestry ought to be the sustainable generation of development benefits. Sound resource mobilization systems in forestry enforce a benefit-cost discipline to the allocation of public budgets, land use, and other resources devoted to forestry. As detailed in this report, resources are not allocated to, or drawn from, Nepali forestry in either a planned or balanced manner. In particular, Nepal lacks a well-defined, scientifically based land allocation system. There are no appropriate controls on shifts in land use and land cover; nor do budget planning and execution processes in forestry embody any mechanisms that, for example, effectively coordinate expenditures on capital investments and recurrent costs. As a result, Nepali forestry is being consistently drained of resources without commensurate benefit.

PERSPECTIVE AND RECOMMENDATIONS

Developments in Nepal's forestry sector need to be considered in a balanced light. Despite ongoing challenges, Nepal has been a global leader in community forestry over the past 25 years. As an incubator of the community forestry approach that is now embraced worldwide, Nepal has a well-deserved reputation for innovation in forest policy and implementation. The political unrest and conflicts of the past decade have exacerbated many of the risks facing forests in Nepal. Many of the governance and corruption problems in forestry and some of the specific instances of encroachment onto forest lands are directly related to Nepal's postconflict context. However, in comparison with other conflict-affected sectors, Nepal's forestry sector has been relatively resilient. Similarly, although illegal logging, wildlife poaching, land encroachment, and corruption clearly negatively affect Nepal's forests, in international comparison, Nepal's forests have been reasonably well preserved. Results from the forthcoming FAO Forest Resources Assessment for Nepal will provide valuable quantification of the actual rate of deforestation in Nepal, and will help to further clarify the challenges facing the sector. Still, regardless of whether deforestation is higher or lower than stakeholders fear, there is enormous scope for reform in Nepali forestry.

A blend of institutional and policy reforms and investments are needed in the Nepali forestry sector. Without substantial progress on a credible reform program addressing the governance and other constraints to forestry development, prospects are limited for successful investment in capacity building and resource management. Key priorities include:

- Remain committed to community-based approaches and minimize discrepancies in benefit-sharing arrangements.
- Develop multisector, multistakeholder land use planning to rationalize and prioritize land conversions.
- Pursue remedies against corruption and criminal allegations and adopt a risk-based approach to prevent forest crime.
- Rationalize forest administration to address excessive costs and improve resource management.
- Reform the timber marketing system by liquidating Timber Corporation of Nepal and introduce market-based timber sales based on transparent harvest planning and controls.

The following matrix summarizes specific actions that could address issues in each of the three areas of forest policy targeted in this report. These would be consistent with and could be integrated into the ongoing Reducing Emissions from Deforestation and Forest Degradation (REDD+) Readiness Program supported by the Forest Carbon Partnership Facility. Progress on these could lay a platform for success with investments, potentially suited for international support addressing:

- Second-generation community forestry issues in the Middle Hills (technology, conflict resolution, social inclusion, marketing);
- Forest management planning and operations in the Terai employing participatory approaches;
- Multilevel resource assessment for REDD linked with CFUG forest management;
- Strengthening value chains and marketing for nontimber forest products.

NEPAL FOREST SECTOR SURVEY—SUMMARY POLICY RECOMMENDATIONS MATRIX

SECTOR POLICY DIMENSION	NEEDED CHARACTERISTICS	CURRENT STATUS	MAIN ELEMENTS OF RECOMMENDED REFORMS
Governance	Stakeholders perceive control over forest resources as fair, legitimate, and predictable. Disputes are settled promptly, conclusively, and transparently following due process.	Forestry sector is marked by distrust and suspicion of authorities and decision makers. Transparency and predictability are lacking. Allegations of corruption are widespread. Disputes linger and resolutions are poorly documented and disseminated.	Increase pluralism in control and authority over forest areas by increasing local control and weakening the hegemony of national authorities.
			Increase intersectoral oversight by introducing improved reporting regarding harvests, production, revenues, receipts, and other results of the utilization of forests.
			Enforce and strengthen interest and asset disclosure requirements for forestry and related officials with duties related to sale and disposition of forest assets, and extend requirements to close family relatives and associates.
			Develop standards for ethical conduct by forest officials, including local officials involved in sale of forest products, and provide awareness training to officials, the public, and owners and staff of enterprises conducting business with forest authorities.
			Increase transparency for plans and results of forest management operations, making available at district, regional, and national levels, data on physical and financial results and exceptions.
Incentives	Incentives facing forest users and managers reflect relative scarcity of natural resources and other values.	Royalties, taxes, charges, and regulatory measures understate forestry values, encourage overconsumption, and discourage investment and management.	Dismantle Timber Corporation of Nepal and enable decentralized marketing of public timber sales subject to local management plans and market conditions.
			Institute harvest planning for nontimber forest products and prohibit internal transport controls, fees, and trade taxes on nontimber forest products.
			Set up multisector timber royalty establishment and revision procedures based on local and international market conditions.

(continued)

SECTOR POLICY DIMENSION	NEEDED CHARACTERISTICS	CURRENT STATUS	MAIN ELEMENTS OF RECOMMENDED REFORMS
Resource Mobilization	Arrangements for bringing resources to and from forestry are efficient and sustainable and promote maximization of development impact.	From the micro to the macro levels, resource use in forestry is not guided by benefit-cost consideration, leading to widespread inefficiencies and distortions in budgets, land use, and performance.	Revise silvicultural standards to modernize tree felling criteria and specifically to rationalize harvest of live ("green") trees on an appropriate economic and biological rotation.
			Develop a national land use policy and local procedures to control forest conversion, focusing agricultural development on areas suited to sustainable cultivation and with lesser value as natural areas.

1 INTRODUCTION

Nepal's forests should contribute greatly to sustainable development and poverty reduction. Forests and forest products are vital to the livelihoods of the Nepali people and to the country's economy and environment. Forests (a) are central to the compost-based farming systems of the Middle Hills; (b) are the primary source of fuelwood for the vast majority of population; (c) are an important component of Nepal's appeal as a tourist destination; (d) play important hydrological and slope stabilization functions; (e) provide virtually all of the country's timber needs for construction and small- and medium-scale industry and handicrafts; and (f) support a wide array of wildlife and biodiversity that play their own roles in Nepali life and economics. Forests are particularly important for the rural poor because grazing and nontimber forest products are especially important as insurance against poor crop years and other adversities.

Nepal's forest sector has long been a target of innovative policies, international development assistance, and increasing public and academic attention. Nepal, in fact, has been a world leader in the community-based approach to forestry development. As discussed later in this report, the successes of forestry in Nepal in the past 20 years derive almost entirely from enabling the energies and initiative of people to take control of local forest resources and to husband and sustainably manage them. Unfortunately, despite this history of innovation and experimentation, Nepal's forest institutions have failed to deliver on the forests' potential. Outside of the community forestry managed areas of the Middle Hills, the forest is being allowed to erode in area, quality, and vitality, and the sector's institutions are wrestling with corruption, declining technical capacity, and diminished credibility and prestige.

Increased awareness of the disappointing performance of the forest sector comes at a time of broader and far-reaching change both for Nepal and for forestry. The restoration of peace and stability, the political process leading to a new constitution and an expected federal structure of government, and the reintegration of combatants into the national community creates space for reform across the economy and particularly in forestry. Globally, new conceptions of the role of forests in the earth's climate and atmospheric carbon balance are leading to efforts to establish a financial architecture that would compensate forest preservation efforts in developing countries. New forms of international cooperation in forest law enforcement and governance are also emerging to help address illegal logging and forest-related corruption. Within Nepal, opportunities for popular engagement

in public affairs are expanding and civil society has taken a strong interest in forestry. New institutions within the public sector at both the national and local levels, and across the legislative, judicial, and executive functions potentially provide stronger oversight of forestry. These and other changes in, or affecting, the forestry sector could help provide the impetus and a favorable environment for reform.

Some important recent developments in the Nepal forest sector include:

- The completion of a parliamentary commission investigation of deforestation that concluded that 2010 had been one of the worst years ever for deforestation in Nepal;
- An independent judicial commission that leveled corruption charges at a wide range of officials up to the highest level in the Ministry of Forests and Soil Conservation (MFSC);
- The end of the planning period covered by the 20-year Master Plan for the Forestry Sector;
- Investigations by the National Vigilance Centre into cases of illegal logging and alleged corruption in forestry; and
- The completion or imminent completion of several major longstanding development assistance projects in the forestry sector and the preparation of proposals for a new generation of programs of assistance.

Recently, the government has completed a proposal for a program of detailed studies and consultations to enable Nepal to participate in the anticipated market for forest carbon emissions reductions, and has played a lead role in the development of an international strategy for the protection of wild tigers. Building on these and other efforts, the Ministry of Forests and Soil Conservation has initiated development of a strategy for the forestry sector.

This report is intended to offer an analytic framework and update on Nepal's forest sector as a contribution to the dialogue on forestry. Its primary aim is to provide a set of perspectives to help frame a stronger and more conclusive discussion of issues, priorities, and options for public policy, institutional reforms, and investment. The report is based primarily on information in the public domain and data that are already well known to many who are intensively involved in discussions of forestry in Nepal. However, the report also aims to introduce issues in the forestry sector to a wider range of stakeholders, including policy makers in planning and financial agencies and sectors related to land use and industrial policy, who may be less familiar with some of the important details of the sector. The report was prepared in response to a request from the Ministry of Forests and Soil Conservation to the Program on Forests (PROFOR), hosted by the World Bank, for a study of the forestry sector that would, among other things, review issues associated with forest governance as well as needs for capacity building and other investments in the sector. The report was prepared by a World Bank team that benefited from discussions with a wide variety of stakeholders, and in particular from public workshops held in Kathmandu in May and August 2010, further consultations in 2011, as well as interactions related to World Bank support of an ongoing REDD (Reducing Emissions from Deforestation and Forest Degradation) Readiness Preparation grant.

Following this introduction, chapter 2 presents a brief summary of the basic data that are available on the Nepal forestry sector. At the time of the preparation of this report, a national forest inventory, the first in more than 15 years, was being conducted, but results were not available in time for incorporation here. These forthcoming results will shed new and stronger light on the size and

condition of the forest resource, but are unlikely to lead to seriously different implications for the policy issues and options considered in this report. Chapter 3 presents an examination of how Nepal's forestry sector performs in respect to three dimensions that are critical in determining success. Specifically, the chapter discusses (a) the extent to which forest resource users face incentives that appropriately signal the relative scarcity of natural resources; (b) the extent to which stakeholders perceive the exercise of control (governance) over forest resources as fair and legitimate; and (c) the effectiveness of systems for sustainably bringing and taking resources from or to the sector for development (resource mobilization).

Chapter 3 further assesses the Nepal forestry sector in terms of three broad characteristics of any well-functioning forestry sector. For each, the chapter presents the attributes associated with a strong and viable forestry sector and describes and analyzes the consequences of specific features in the current situation in Nepal. The analysis and the indicative reforms presented in this chapter provide the basis for the recommendations presented in chapter 4. New possibilities are opening up for supporting reforms and capacity building, as the role of forests in carbon sequestration is being increasingly recognized and funded. The emerging architecture for payments for environmental benefits from the forests could be used to provide impetus for some of the recommendations made in this report.

Appendix A provides a summary from the main available data sources on Nepal forestry and appendix B, which is also a basis for some of the specific recommendations in chapter 4, presents a detailed review of control problems currently being encountered in the sale of timber from community-managed forests in the Terai. The work reported in appendix B was conducted by a World Bank team in collaboration with the Community Forestry Division of the Department of Forests based on a request that arose in the course of the preparation of this report.

2 THE ROLE OF FORESTS AND FORESTRY IN NEPAL

Basic statistics on the forest resources of Nepal, including measures of areas, stocking, production, and consumption of forest products, are weak, and available statistics provide only an imperfect picture. Detailed data from a range of sources are provided in appendix A for convenience. This chapter presents a summary overview focusing attention on the actual delivery from the resource base versus sustainable potentials. Results of an ongoing national forest assessment being conducted by Nepal's Department of Forest Research and Survey, with assistance from the government of Finland, will do much to clarify the basic facts about the physical condition and extent of the country's forest resources. Pending publication of those results (which will involve their own technical uncertainties and potential for error and misrepresentation), the most recent basic data on forest resources are nearly 20 years old, although they have been updated to a limited extent by official estimates and various independent studies. Despite widely cited commentary, there is simply no credible scientific basis to support, or to confidently dispute, recent descriptions of deforestation or forest degradation in Nepal.

Forest Area. Of a total land area of almost 15 million hectares, an estimated 30 percent meets reasonable definition of forest cover. This includes well-stocked areas, likely to be in the neighborhood of 1 million hectares (15 percent), and poorly stocked (some degraded by human activity and some naturally of low stocking density) in the range of 1.5 to 2.0 million hectares, with the balance consisting of a wide spectrum of forest types and conditions in between. There is considerable variation in forest types over the range of terrains and elevation in Nepal. The impact of human activity has profoundly altered much of the forest resource. Nevertheless, most of the forest resource is essentially natural in the sense that it has not been planted by humans, but human activity, including livestock grazing, logging, and fuelwood collection, has certainly influenced the structure and composition of much or even most of the country's forests. Plantations account for less than 1 percent of forest area and constitute a negligible influence on the sector's capacity and capabilities.

Deforestation. In contrast to the current forest area of approximately 30 percent, forests probably once covered more than two-thirds of Nepal. Historically, deforestation has been gradual and largely a result of the expansion of agriculture on pace with population growth. Over the past 50 years the deforestation process was punctuated, largely unintentionally, by economic and policy processes and decisions. An ill-considered nationalization of all forest land is generally credited with disrupting long-established social norms and arrangements that had managed forest

resource use, especially in the Middle Hills, and in leading to widespread deforestation and forest degradation in those regions. Land settlement schemes in the Terai region, enabled by the control of malaria in the 1960s, initiated an acceleration of forest clearance that continues today, now mostly as informal and spontaneous clearance. Encroachment and clearance took place during the recent civil unrest, and some conflict-related occupancy of forest areas has yet to be resolved.

Forest Management and Administration. Although data are incomplete and analysis is subject to some dispute, reversal of the forest nationalization policy, beginning with pilot programs in the 1970s and culminating in an aggressive and internationally recognized community forestry policy, is credited by most observers with reversing the loss and degradation of the forests of the Middle Hills.[1] Currently, virtually all Middle Hills forests are under management of Community Forest User Groups (CFUGs) (for details see appendix A). In the Terai, establishment and protection of several large national parks (generally derived from their having been hunting reserves), and the designation of additional areas as forest buffer zones, has conserved large areas of forests, but the extension of community forest management has been extremely limited, and only tentative pilots with an attenuated approach have proceeded.

The differing forest histories of the Middle Hills and the Terai have been extensively researched and analyzed (see, for example, Ojha 2008) and are the result of several key economic and political factors. Importantly, the remoteness and inaccessibility for commercial exploitation of forests in the Middle Hills and their high degree of integration into the livelihood and mixed farming systems of local communities, together with their relatively early depletion, meant that, although there was some initial resistance, there was limited incentive to oppose the redistribution of forest property rights. The "handover" of forests to CFUG took on a rapid pace in the Hills, while in the Terai, where opportunities for rent capture were greater, forest tenure change stalled.

In specific terms, community forest management in the Middle Hills amounts to promotion and local acceptance of rules to limit grazing and timber and fuelwood collection, and respect of permanent forest boundaries. Government regulations call for written Community Forestry Operational Management Plans with maps, presentation of forest inventory and survey results, harvest prescriptions, and other standard contents. In principle, these plans are to be prepared by members of the CFUG, but it is common for Community Forestry Operational Management Plans to be prepared by staff of the District Forestry Office.

Terai forests, in contrast, often possess timber and land of much greater commercial value, are more easily and profitably logged by virtue of more favorable topography, and tend to be less deeply rooted in the fabric and traditional livelihoods of local communities (which are often partly or largely made up of relatively recent migrants from the Middle Hills). These factors generate many and varied opportunities and motivations for rent-seeking and capture at the local and national levels, the net result of which severely inhibits the emergence of credible and viable community forest management systems in the Terai.

[1] The impact of very high levels of out-migration and the influx of comparably high remittances from overseas workers to the rural environment has not been well studied, but labor shortages are probably contributing to a contraction of agriculture and increases in land fallowing.

Instead, most of the Terai forest outside of the protected area system currently is nominally held under the formal control of the government. As a practical matter, areas under "government-managed forest" status are not managed in any scientific or professional forestry sense and are exploited in a chaotic and unsustainable manner. Operational Forest Management Plan guidelines were developed with donor assistance in the 1990s and piloted for limited areas. The planning approach put forward in these guidelines was essentially valid from silvicultural and forest engineering points of view, but in retrospect was limited in its attention to social dimensions and, in any case, the extension of sound management was not sufficiently supported at the policy and leadership levels. Some quite limited trials of community forestry have been developed in the Terai, and efforts are under way to pilot an alternative called collaborative forestry.[2]

In practice, forest harvesting in the Terai is seldom executed in line with sustainable yield principles. Forest management planning processes and plans, especially for government-managed forests, are inadequate. Harvest prescriptions do not have sound scientific basis. In many cases, these are determined without a proper resource inventory and decisions are made without adequate information about resource dynamics, distribution, and growth and mortality rates. There are few provisions for grazing, regeneration management, and fire control in government-managed forests. Establishing and maintaining fire lines, once a common practice in government-managed forests, is increasingly rare.[3]

Due to this mismatch, it is reported that in many cases overharvesting has already diminished the forest resources, whereas in other cases the annual allowable harvesting is well below its quota. Illegal trade is rampant, particularly in Terai, because of corruption, easy access to the border with India, and because law enforcement in the absence of effective management is a practical impossibility. A recent study by a Parliamentary Committee on Natural Resources estimated that 10 million cubic feet (270,000 cubic meters) of timber had been illegally cut and smuggled from the forests of Terai and Inner Terai during 2010.

Forest Products Supply and Demand. The two most important categories of forest products demand in Nepal are fuelwood and timber. As for data on forest resources, the quality of information on forest products consumption and demand in Nepal is poor and unreliable. Fuelwood demand, typically denominated in tons (due to inclusion of agricultural residues, small diameter material, and wood waste) amounts to about 10 million tons per year. Industrial wood consumption amounts to about 3.4 million cubic meters. Studies by the Nepal Foresters Association indicate that there are significant regional imbalances in supply and demand, largely as a result of high transportation costs.

Forest Product Potential. Forests and shrubland are integral parts of Nepal's environment and are thoroughly integrated into agriculture and rural livelihoods. Rural people rely on forests for fuel, wood, grass, fertilizer, food, fibers, spices, resins, gums, latex, and medicinal plants. Forests also provide a multiplicity of nontimber forest products (NTFPs) for household, commercial, and industrial use. As shown in table 2.1, Nepali forests are estimated to be capable of a sustainable annual harvest of more than 20 million cubic meters.

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[2] Collaborative forestry and community forestry differ primarily in the autonomy of local users and in the share of timber revenues to which users are entitled. Under collaborative forestry, local people receive a much lower share.

[3] However, these mechanisms and practices are common in community-managed forests and to some extent in collaborative forest management, and contribute to maintaining and improving the forest condition.

TABLE 2.1. SUSTAINABLE PRODUCTION FROM THE FOREST IN NEPAL

FOREST CATEGORY	AREA (MILLION HA)	PRODUCTIVITY (M^3/HA/YEAR)	TOTAL SUSTAINABLE PRODUCTION (MILLION M^3/YEAR)
Potential production forest	1.39	6	8.34
Hills and mountain forest	4.43	3	13.31
Total	**5.82**		**21.64**

Source: FAO 2009.

Timber harvests in Nepal are administered by the Department of Forestry for Government Managed Forests and by CFUG in the case of community forestry. Logging is typically conducted by contractors selected through bidding and other selection procedures. The Timber Corporation of Nepal (TCN), while being gradually reduced in size and influence, remains the largest single institution influencing forest product markets and marketing in Nepal. District Forest Product Supply Committees are also important elements of the timber value chain. The absence of effective control and management at the forest level reverberates through to the logging and wood utilization subsectors.

The Timber Corporation of Nepal and District Forest Offices (DFOs) sell forest products from government-managed forests, and CFUGs sell forest products from their community forests, at significantly reduced prices. Private companies, mostly contractors, buy timber and fuelwood and sell the timber and wood products in various forms in the market. TCN also supplies products to the designated cultural or national organizations at subsidized prices. The CFUGs sell only a small quantity of forest products in the market. Trading of these products at multiple prices also creates confusion and complexity, increasing the regulatory burden of forest administration. The predominance of subsidized material from TCN and other official sources amounts to a significant tax on CFUGs.

As discussed in appendix B, basic weaknesses in forest inventory, harvest prescriptions, and scheduling prevent the application of effective controls on timber sales, transport, and revenue generation/management. Officially reported harvests of round wood from 1999 through 2005 range from about 26,000 cubic meters to 80,000 cubic meters, averaging about 60,000 cubic meters. These, of course, do not include illegal or unreported logging and significantly underestimate actual logging as well as sustainable potential. Officially recorded forest revenue decreased from US$9.5 million in 2004 to US$4.18 million in 2006.

One estimate is that about 1.2 million cubic meters of fuelwood and 900,000 cubic meters of timber could be sustainably produced annually and could generate employment for about 4.8 million people and add approximately Nr 6 billion (US$85 million) in revenue to the national treasury (Pokharel and Amatya 2001, as cited in FAO 2009). Table 2.2, adapted from more recent estimates by Pandey, Subedi, and Dhungana (2010), shows that based on conservative figures for production and prices, Nepal's forestry sector could sustainably generate US$180 million a year from timber harvests, roughly 20 times what is officially achieved.

TABLE 2.2. ESTIMATED VOLUME AND VALUE OF COMMERCIAL TIMBER PRODUCTION IN NEPAL

ALTITUDE CLASS (METER)	ACCESSIBLE FOREST AREA (THOUSAND HECTARES)	STANDING VOLUME (MILLION CUBIC METERS)	INCREMENT (MILLION CUBIC METERS)	ALLOWABLE CUT (MILLION CUBIC METERS)	ESTIMATED VOLUME ACTUALLY COMMERCIALIZED (MILLION CUBIC METERS)	VALUE IN US$ (MILLION)
0–1000	1224.10	179.21	2.69	1.08	1.08	142.2
1000–3000	897.90	169.31	2.54	1.02	0.51	40.3
3000–above	57.20	54.50	0.82	0.33		
Total	**2179.20**	**403.02**	**6.05**	**2.42**	**1.58**	**182.5**

Source: Based on Pandey, Subedi, and Dhungana (2010).

Most commercial NTFPs are harvested from wild collection, usually from extensive areas of the government-controlled national forests and grasslands. With some exceptions, such as Ministry of Forests and Soil Conservation (MFSC)-certified lokta handmade paper and wintergreen from community-managed forests, value chains are highly inefficient and uneven in the distribution of benefit margins and power across the value chain. More than 161 species of NTFPs are harvested for commercial purposes in Nepal (Subedi 2006). More than a 100 of these species are high value and are traded in national and international markets. The largest share of NTFP production is exported to India, with the bulk of the remainder going to the United States and Europe. Nepal's NTFP exports were estimated at more than Nr 2.5 billion (US$35 million) in 2001/02 (Subedi 2006). NTFP export revenues are considerably less than estimated timber potential, but it is notable that even with the distortions discussed in the next chapter, they are already at least three times higher than officially reported recent government timber revenues.

Overall Performance. The forest sector is nearly unique in the wide range of social interests it contributes to. Timber production, hydrologic and slope stability, land for competing uses, biodiversity and wildlife, NTFP, scenic value and tourism, indigenous peoples' heritage, and livelihood rights—these are only some of the valued contributions that individuals and societies look for from forests. As a result, evaluation of a forest sector's performance depends very much on the perspective and interests of those making the assessment.

From the point of view of various specific products and services considered in this chapter, several key observations are:

Actual outputs are far below potentials. For virtually every class of forest product and service produced by the forests of Nepal, the actual output is considerably lower than the resource is capable of sustainably supplying. This translates directly into losses to the economy amounting to between US$60 million and US$250 million annually.

Deforestation and forest degradation continue unnecessarily. While the Forest Resources Assessment results are still awaited, it is clear that deforestation continues in some places, particularly the Terai. Land suitable for conversion is certainly under forest cover, but most deforestation is essentially unplanned, and there is no assurance that the subsequent land use (usually agriculture) will be sustainable or that the affected communities will receive social services or other development assistance.

Distribution of forest benefits can be inequitable and unpredictable. One of the most appealing features of community forestry is the increased likelihood that the benefits of forest exploitation will benefit the poor and disadvantaged. Although this seems largely to be the case with Middle Hill CFUG, even there instances of elite capture have been reported. Evidence shows that forest supply chains outside of the forest, particularly those of NTFPs, are subject to illicit taxation and coercion. Elsewhere in Nepali forestry, in Collaborative Forest Management, Buffer Zones, and especially in government-managed forests, the benefits of forest utilization are not being distributed in a pro-poor fashion.

Formally mandated processes are often ignored, and informal and illegal alternatives are increasingly common. Nepali forestry, generally, does not lack legislation, regulations, guidelines, and procedures. However, the extensive formal legislative and regulatory framework includes some archaic and outdated elements and, more important, it remains more on paper, routinely ignored in implementation and manipulated in the interests of private and corrupt gain.

Community-based management is the only demonstrated success, but community options may not be sufficient for all resource management needs, and a better functioning government role is essential. It is evident that an expanding community forestry subsector should be the keystone of Nepali forestry. Greater leadership and government commitment to working through the challenges of community forestry implementation in the more difficult social and economic environments of the Terai are clearly needed. It is also clear that continued institutional innovation and flexibility are needed, and that diverse stakeholders inside and outside of the government need to engage constructively on the development of new, responsible, and accountable public-private-community approaches to forest management and development.

The next chapter steps away from the output-based perspective of this chapter and employs qualitative criteria that consider policy-driven factors to condition the sector's ability to perform. This helps to explain the sources of underperformance and lays a basis for discussion of reform priorities in the final two chapters. The common consideration is the need for a better functioning government role in the forest sector.

3 POLICY AND INSTITUTIONAL ASSESSMENT

A successful forestry sector in Nepal will balance the provision of three outcomes in a sustainable manner: (a) conservation of natural stocks for the provision of ecosystem services, including biodiversity; (b) sustainable economic growth through improved forest productivity, sustainable use, and well-governed value chains of commercial products and services; and (c) social equity and justice, especially livelihoods and poverty alleviation. The ability of a forestry sector to produce these outcomes largely depends on three characteristics or qualities:

- *Incentive framework*—the extent to which incentives make users aware of the scarcity of natural resources, thereby guiding them toward sustainable outcomes;
- *Systems for resource mobilization*—the extent to which resource mobilization systems are efficient and effective in deriving benefits from, as well as investing in, the development of the sector; and
- *Governance*—the extent to which governance arrangements assure stakeholders that control of resources is fair, legitimate, and predictable, and serves to promote confidence, investment, participation, and equity.

This chapter assesses the Nepali forestry sector in terms of these three broad characteristics. For each, the chapter presents the attributes associated with a strong and viable forestry sector and describes and analyzes the consequences of specific features in the current Nepali situation. The analysis and the indicative reforms presented in this chapter provide the basis for the recommendations presented in chapter 4.

INCENTIVE FRAMEWORK

The incentive framework includes prices, royalties, taxes, subsidies, rules, regulations, and other forces that influence individual users, managers, and stakeholders in actions regarding how forest resources are managed and used. Incentives can motivate users to conserve, manage, invest in, overconsume, or abuse forests and forest resources. A sound incentive framework reflects the true relative scarcity of forests and forest-based resources; leads users and managers to take sensible actions; and can promote sustainable management of forests while balancing social, economic, and environmental outcomes.

Key incentives influencing Nepal's forestry sector are forest product royalties and prices, forest management regulations, official taxes and "informal" fees imposed on wood and NTFPs along the value chain, and environmental assessment procedures intended to internalize environmental externalities.

Forest Product Royalties and Prices. Royalties and prices are important fiscal measures that can provide powerful signals to users on the scarcity of forest resources and thereby on the value of conservation, efficiency, and investment. The current royalty rate for sal (Shorea robusta) round logs—the major hardwood timber species of Nepal—is only Nr 250 per cubic foot (approximately US$125 per cubic meter), while sal sawn timber fetches a price between Nr 2,700 and Nr 3,500 per cubic foot (US$1,400–$1,800 per cubic meter) in urban markets. Costs of processing, transport, and conversion losses account for some, but by no means even a large share, of the margin between forest and market. Most of the difference consists of rent, which in a functioning timber market would accrue to the resource owner or manager. Similar gaps between royalty and value are seen with other species (see table 3.1). Because the government has not revised the royalty rates for timber in the past decade, current royalty rates do not reflect the true scarcity of products, nor do they correspond to current market prices.

TABLE 3.1. ROYALTY RATES (NR) FOR TIMBER/SAW-LOGS AND FIREWOOD 2009/10

TIMBER / SAW-LOGS	ROYALTY RATES (NR)
A. Logs by Species	
Rosewood, Teak, Walnut, and Dar	300
Sal	250
Champ, Bijasal	200
Sadan and Sissoo	150
Asna, Jamun, Karma	110
Semal, Poplar, Bhudkul, Gutel, Masala, and Mango	80
Deodar	80
Chir Pine, Fir, Spruce, Tsuga, and other species of Pines	50
Banjhi, Botdhangero, Pajan, Faldu, Saur, Chilaune, and Gamari	50
Kimbu, Harro, Barro, Tooni, Tikul, and Siris	100
Katus (Chestnut), Lampate, Utis (Alder), and other Spp	40
B. Logs by Species and Weight	
Khair (Acacia Catechu) including root (per kg)	10/kg; 300/cft
C. Lops and Tops by Species	
Eucalyptus (Masala)	100/quintal
D. Firewood by Purpose	
Religious	500/chatta
Business	1000/chatta

Source: Department of Forests database, 2010.

In community-managed forests, the concerned CFUG can independently set prices of forest products. However, they need to follow procedures similar to DFOs for auction or tender for sales outside the district. In practice, the price for members is nominal (Nr 100 to Nr 200 per cubic foot),

and usually the price of the same products can vary by quantity and depending on the economic condition of the consumers. This is justified on grounds of equity and social justice. On the basis of well-being, ranking, or other judgment, the poorest members get products at the lowest price or even free of cost. Sales outside the CFUG, and especially those that might cross district boundaries, are obviously constrained by the prices established by the TCN and District Forest Products Supply Committee (DFPSC) process. The dominance of timber priced by official fiat is essentially a tax on CFUG production and contributes to the low level of sales of timber outside of user groups.

There is no difference in royalty for low-quality timber of the same species, but royalties distinguish between logs classified as saw-logs and those classified as fuelwood, which, however, must be cut (bucked) to firewood length (less than 2 feet). This serves to encourage misclassification, and the bucking of logs reduces their value for processing.

Prices and royalty rates of forest products in Nepal are consistently lower than those prevailing in India. Timber prices of valuable species in the Terai, such as sal, are about 60 percent higher in neighboring parts of India. Similarly, collectors in Nepal receive Rs 0.60 for each kilogram of sal seed, while their counterparts in India receive as much as three times that price. Likewise, resin tappers in Nepal receive Nr 1.50 to Nr 2.0 per kilogram, which is only one-third of what is paid in India. In December 2010, for example, the market price of Jatamansi (*Nardostychis grandiflora*) in a Nepali market was Nr 350 per kilogram, which is less than a half the price in a Delhi market (Rs 720 per kilogram).

Forest Management Regulations. Forest management regulations are critical when market incentives are not sufficient for forest conservation. At the same time, an inappropriate regulatory framework can seriously limit or even become detrimental to resource conservation. Nepal has regulations on forest management, including regeneration, thinning, overall manipulation of tree density, and final felling of trees and harvesting for each management regime. For each regime, planning and implementation have to be carried out according to an approved operational plan at the Forest Management Unit (FMU) level. More flexibility is given to community-managed forest than to government-managed forests. For example, the operational plan of a CFUG or a collaborative forest management group can have provisions for "green" (live) tree felling based on annual allowable harvest[4] rate and selective harvesting systems, whereas the operational plan for a government-managed forest may not. In government-managed forests, only dead, diseased, and dying trees are allowed to be harvested, based on an antiquated silvicultural standard thought by some to be conservative and protective of the forest.

Annual allowable harvest is typically structured to achieve a balance between growth (increment) and harvest, and it provides useful information on expected or potential forest products entering the market. In community forests, allowable harvest is calculated according to inventory guidelines, which calculate annual growth as a percentage of growing stock and allowable cut as a percentage of annual growth. In government-managed forests, because inventories and surveys are not conducted, a quota is established in place of an allowable harvest figure. The permissible quota for each commercially viable forest product has to be mentioned in the district forest management plan. To generate a quota proposal, a district forest official identifies and measures the dead, diseased, and dying trees in each plot and prepares a report with a total quantity of harvestable round timber in cubic feet. The concerned district forest officer and regional director verify this report by checking a sample of 10 percent and 5 percent of the proposed trees, respectively.

[4] The periodic allowable harvest for a particular forest product is the volume of the product that may be harvested sustainably for a given period (typically annually) on a continual basis at a given intensity of management.

The effort to control logging on the basis of mortality and morbidity rather than growth introduces serious distortion. Sal trees reach what is termed financial maturity, depending on management objective, between 20 and 80 years of age, with a realistic average of about 60. Under natural conditions, sal trees do not succumb to senescence and disease until they are much older (125 years or more). During this time, their growth is declining and is lower than would be attained by younger, more vigorous trees. In stands devoted to commercial production, the time trees are retained beyond financial maturity represents a serious loss of value and returns to the land resource.[5] Interestingly, dead and diseased trees are of significant biodiversity value by virtue of the habitat that cavities provide to nesting birds.

The policy of restricting harvests to dead, diseased, and down (fallen) trees also has a more sinister consequence. To the extent that it is enforced, it provides corrupt officials and illegal loggers with a convenient and low-cost method of increasing the supply of timber—trees can simply be killed (or merely fraudulently classified as dead). Perversely, the net result is that illegal logging, at least in this respect, more closely resembles optimal forest management than does the officially sanctioned system. As one Nepali forester commented in a workshop held for the preparation of this report, the government's forest management regulations allow illegal loggers to be better foresters than those that comply with regulations. Although doubtless an exaggeration, this points out the severity of the distortion and the ways in which it helps to further undermine confidence in the quality of resource management.

Government regulations and support to address other aspects of forest management, such as logging practices, protection of riparian areas, road and trail standards, drainage, log yard operations, and so forth, are essentially lacking. These aspects are especially critical regulatory issues because they relate to externalities, particularly water quality, and the maintenance of site quality.

Nontimber Forest Products. These are of major economic significance in Nepal and collectively could rival timber in terms of total value. Nepal's Forest Act (1993) restricts NTFP use by imposing (a) a licensing system for product removal, sale, transportation, and export; (b) a royalty system; (c) a controlling authority at the local DFO; and (d) severe punishments for unauthorized product collection. The Forest Rules (1995) further describe the regulations with some noteworthy provisions in relation to NTFPs:

- A collector must submit a detailed application to the DFO for collection in national forests. The DFO shall check the quantities collected and issue a release order. The right to collect, sell, and distribute may be auctioned to the highest bidder;
- NTFPs from community forests may be transported only after informing the DFO;
- Species not mentioned in the legislation cannot be traded until sanctioned by the government; and
- The government may impose a ban on the collection, use, sale, distribution, and export of any forest product without justification.

The government of Nepal has imposed bans on some forest products for trade that, in some cases, seem inappropriate on sustainability grounds, and in any event are ineffectively enforced. The government has banned the collection, trade, and export of two commercial species: Panch Aunle

[5] From a log processing point of view, because old growth sal tends to be susceptible to heart rot (decay originating from the center of the stem), excessively long rotations or cutting cycles lead to lower wood utilization, increased costs, and lower willingness to pay for raw material.

(*Dactylorhiza hatagirea*) and Okhar (*Juglans regia*). These species fetch very high market prices. Similarly, Jatamansi (*Nardostychis grandiflora*), Sugandhawal (*Valeriana jatamansi*), Sugandhakokila (*Cinamomum laucesecens*), Lauth salla (*Taxus baccata*), Talispatra (*Abies spectabilis*), Sarpagandha (*Rawolfia serpentine*), Jhyau (*Permilia spp*.), and Silajit (a mineral) are banned for export in crude form. For unrestricted products, any Nepali individual or organization can apply for collection rights of NTFPs by stating the product types, area, quantity, and purpose of collection. In practice, most collection licenses are granted to traders, not to harvesters, who produce an income tax certificate. Traders holding these collection licenses can exert strong influence on prices through collusion because harvesters can sell these plants to only one of them. A CFUG can also provide collection licenses to collect a product from its community forest if the product is mentioned in the CFUG's operational plan.

Nepal has permit systems to control unsustainable harvesting of NTFPs and at the same time has tax provisions that introduce incentives at the central and local government levels to encourage harvesting and trade. Collection, transport, and export permits have to be obtained for the commercial collection and trade of forest products. DFOs and CFUGs issue collection permits for the government and community-managed forests, respectively. Because NTFP enterprises are defined as a priority sector, there are some provisions for fiscal incentives. These enterprises can enjoy value-added tax exemption and a tax holiday for up to 10 years. However, District Development Committees (DDCs) may impose additional tax in some cases, pursuant to the Local Self-Governance Act. The issue of multiple-taxation is particularly severe in the case of NTFP trade as different agencies, including Village Development Committees, DDCs, and even local clubs tend to impose tax on these products.

For verification, there are multiple checkpoints within the country and at the Customs Office at export points. The permit and checkpoint systems have been designed to control illegal harvesting and trade, to limit harvesting to sustainable amounts, to collect royalties on products from government-managed forests, and to prevent the collection of banned plant products. However, the system does not work as anticipated because banned products are illegally collected and exported to India and other countries. Moreover, whereas the Customs Office levies a 5 percent export duty on the market price of the NTFP, various organized or informal groups and individuals also charge a levy during transport. Such informal fees all along the transport route—road heads, airports, checkposts, and so forth—present an additional financial burden to NTFP producers and traders due to existing regulatory provisions and practices. The various permit regimes and the informal charges they foster increase the transaction cost of forest products and reduce the benefits, and hence incentives, to forest product producers.

Environmental Assessment. Two environmental assessment tools to examine unintended environmental impacts—Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA)—were introduced to the forestry sector by the Environment Protection Act (1996), which has provisions for IEE and EIA to regulate the harvesting and collection of wood and NTFP from various types of forests.

These procedures assess the positive or negative impacts that a proposed project may have on the environment, examining the natural, social, and economic aspects. Environmental assessment tools are intended to ensure that environmental impacts are taken into account before decisions are made; and when applied with care, they internalize environmental externalities. In practice, IEE or EIA provisions have delayed the process of handing over forests to communities. Because

the processes for conducting IEE and EIA are long and complex, entrepreneurs are disinclined to bear the burden of these processes. This implies that these provisions have an adverse effect on the promotion of community forest management and enterprises at the local level. As a practical matter, environmental assessment requirements add little to what would be met by reasonable standards of professional forestry planning and practice, and are, in any case, totally bypassed for most government-managed forest use decisions.

GOVERNANCE

This section examines tenure and access arrangements, policy-making and conflict resolution processes, forest and wildlife law enforcement (including governance in the forest products value chain), and public sector transparency and accountability as key aspects of governance in forestry in Nepal.

Tenure and Access Arrangements. Property systems deal with the distribution pattern of rights and responsibilities, sanctions, and legitimacy, and determine how people—individually and collectively—use or abuse forest resources. The Forest Act (1993) and the National Park and Wildlife Conservation Act (1973) offer major legal frameworks to provide tenure systems to stakeholders. Under current laws, a forest planted, nurtured, or conserved on any private land owned by an individual is a private forest. With the exception of a few small tree farms and trees on agricultural farms, there is virtually no forest under private ownership. Existing national forests, which include grassland, are all under the land ownership of the government of Nepal but divided into several management categories: protected forest (within the protected area system), government-managed forest, community forest, collaborative forest, leasehold forest, and religious forest.

Confusion over property rights arises from contradictions and inconsistencies between forestry legislation and other laws, such as the Local Self-Governance Act. The Forest Act gives all use and management rights of the forest and other natural resources to the DFO, but the Local Self-Governance Act grants usage rights to stone, sand, and driftwood/timber to DDCs and Village Development Committees. In some situations, private companies or organizations are given exclusive collection rights for quarrying or mining in community forests. This creates confusion on use rights between the CFUG and the private licensee, and results in an environment that is not conducive to improved production efficiency, conservation, and social equity.

As noted in chapter 2, Nepal is a pioneer in community forestry and has been successful in formulating and implementing progressive legislation. The Forest Act recognizes CFUGs as self-governing and autonomous entities and entrusts them with the management, control, utilization, and sale of community forest resources in a planned manner. The CFUG has the right to exclude others from using the forest. The act states:

> the District Forest Officer may hand over part of a national forest to a user group in the form of a community forest, entitling the group to develop, conserve, use, and manage the forest, and sell and distribute the forest products by independently fixing their prices according to an operational plan.[6]

[6] An operational plan is the legal document signed by a CFUG and the DFO for the management, utilization, and conservation of forest resources.

About 61 percent of the total 5.83 million hectares of national forest is considered to be potential community forest, of which more than 55 percent is forested and the rest nonforested. The area of national forest handed over as community-managed forest is 1.25 million hectares or just about 21 percent, which is far below the identified potential area for community-managed forests.

Policy-making and Conflict Resolution Processes. Conflict is a prominent element of the contemporary Nepali forestry sector and seems to have increased sharply in recent years. Conflict in the forestry sector occurs at various levels: among and within interest groups, DFOs and other departments and government agencies, the private sector, local governments, and communities. Conflicts extend to the various management regimes (mainly community, collaborative, leasehold, and protected) and among stakeholders. At the national level, conflict is associated with:

- Policy formulation processes that do not require the involvement of the concerned stakeholders
- Gaps and contradictions in policy provisions
- Opposing values and interests of various stakeholders
- Changing perception of legitimacy
- Weak and inconsistent enforcement
- Discriminatory and corrupt practices
- Differences in expected costs and benefits of compliance
- Perception of resources
- Dependency on resources

With Nepal in political transition, there are questions of legitimacy on both the policy provisions and the exercise of authority. There are contradictions between provisions under forestry legislation and the decisions (and practices) under the government programs that require forest land use, for example, in hydropower development, road networks, resettlement of *Kamaiya* (bonded laborers), and declaration of protected areas. Similarly, government decisions on tenure rights, legislative overlapping among government agencies, benefit-sharing policy and practices, taxation, and monitoring have often become contentious.

The conventional types of quasi-judicial mechanisms for conflict resolution in the forestry sector are believed by many in Nepal to have become ineffective. There are also charges of misuse of discretionary power. For CFUG-level conflicts, some indigenous and local forest communities have a system and mechanism for conflict resolution.

Although not institutionalized, good examples of the participatory process in developing policies and programs in forestry include the Herbs and NTFP Development Policy, Community Forestry Guidelines, and REDD Readiness Preparation Proposal. In these processes, the MFSC took a leadership role, with multistakeholder involvement, and in an effort to seek different ideas and find common ground, convened a series of workshops and consultations involving communities, researchers, the private sector, federations, nongovernment organizations, bilateral project donors, and government institutions.

Forest and Wildlife Laws Enforcement. The Department of Forests, through district- and local-level institutional structures, is responsible for enforcing forestry policies in national and community forests. The Department of National Parks and Wildlife Conservation is responsible for enforcing

acts related to wildlife conservation and protected areas.[7] However, these field offices are severely constrained by prolonged absence of staff, frequent transfers, little sense of local accountability, and inadequate resources. Most DFOs have large areas of national forests to monitor, control, and manage. They perform technical, managerial, administrative, and judicial roles, which often conflict with one another. The DFO is responsible both for enforcing forestry laws (role of police) and for interpreting them and giving judicial decisions (role of courts), while at the same time issuing licenses and permits, collecting royalties, registering CFUGs, and authorizing them to manage and sell forest products, as well as providing training, resolving forest boundary conflicts, and managing the national forests.

For effective enforcement of the assigned authority and roles of public institutions and to ensure good governance practices, the National Vigilance Centre (NVC), under the direct control and supervision of the prime minister, was established in Nepal. The NVC monitors enforcement and governance activities of various institutions and provides feedback. The NVC has reported that enforcement of the Forest Act was very weak, and that the illegal cutting of trees, deforestation, and unlawful forest land capture were continuing in the Terai and the Kathmandu Valley. It estimated that a significant number of green trees in the districts were being harvested without any compliance plan; the DFOs were not carrying out monitoring activities to regulate this. The NVC cited the main reasons for this situation as (a) lack of transparency in personnel transfer; (b) pressure from senior officers; (c) limited number of armed forest guards; (d) lack of logistic support for patrolling; (e) unethical behavior; (f) low salaries; and (g) lack of proper coordination among line agencies, such as DDCs, CFUGs, and others. The NVC also identified impunity or weak punishment for forestry crimes as another reason for the continuation of illegal activities in forests.

The situation is similar for wildlife conservation as well. Though the rules and regulations are strict, implementation is weak. Many incidences of illegal hunting and trafficking of rare, endangered, and threatened wild animals—such as rhinos, tigers, red pandas, and reptiles—indicate the gravity of the problem. The chief warden of the protected area acts as the judiciary body, while the assistant warden and park rangers act as investigation officers, but wardens and park rangers are not sufficiently trained in investigative and judicial matters to perform these roles and exercise their authority effectively. Without proper monitoring mechanisms in place, law enforcement to control illegal activities is inadequate. High-level political interference in the judicial process and a pattern of impunity is believed to prevail in relation to wildlife poaching. Given the demand for high-value animal products in the international black market, some well-funded and effective syndicates rely on, and contribute to, government corruption and make enforcement increasingly difficult.

Public Sector Transparency and Accountability. Stakeholders perceive lack of transparency and accountability as a serious problem affecting forest law enforcement and governance in Nepal. There is a lack of reliable, accurate, accessible, and up-to-date information on forest resources, harvesting operations, deforestation and forest degradation, trade of forest products, and law enforcement. The process of forest management planning, harvesting, and sale of products is not clear to communities, the private sector, or the general public. For example, a recent NVC report reveals that the permit process for forest product harvesting and transport is not easily understood and that there are several cases of corruption and misuse of authority.

In respect to transparency and accountability, community forestry in Nepal is an exception. In most CFUGs, the level of transparency and accountability is high compared with other forestry sector public

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7 An unusual feature of the Nepali forest law enforcement system is the role of the military in protection of national parks.

institutions and companies. In fact, one of the keys to the establishment and successful outcomes of Nepal's community forestry system was the creation of appropriate institutional structures at the local and national levels that included downward accountability and relatively unrestricted decision making at the local level. Due to its participatory nature, a CFUG has to be transparent in its process as well as outcomes related to forest management plans, harvesting, distribution of products, sales, and also in its reinvestment in forestry or in other socioeconomic development of its members. There are provisions for the reporting and endorsement of balance sheets, budgets, and activity plans through meetings and assemblies. The approved budgets and activities are displayed in CFUG offices and are available to all concerned. The CFUG committee and leaders are responsible to their members and are held accountable for any malpractice or injustice. Instances of "elite capture" perpetrated by fraud or deceit by CFUG leaders do occur. The risks of this are exacerbated by generally low levels of basic literacy and numeracy, the relative complexity of the forest management and business practices inevitably involved, and by limited external, independent oversight.

The development of improved transparency, accountability, and anticorruption measures with clearly defined legislation and an effective enforcement mechanism is critical to improving governance of the forestry sector in Nepal. These measures could include development of standards and criteria for sustainable forest management; monitoring of forest stock, including the condition of ecosystem services; tracking or chain of custody certification of major forest products; due diligence of financial institutions; and issuance and ownership of forest-related licenses and concessions.

Conflict. The political unrest and conflicts of the past decade have contributed to and exacerbated many of the risks facing forests in Nepal. Many of the governance and corruption problems in forestry, and some of the specific instances of encroachment onto forest lands, are directly related to Nepal's postconflict context. However, in comparison with other conflict-affected sectors, Nepal's forestry sector has been relatively mildly impacted (Harwell and Blundell 2011). Similarly, although illegal logging, wildlife poaching, land encroachment, and corruption are clearly negatively affecting Nepal's forests, in international comparison, Nepal's forests have been reasonably well preserved.

The key reason that Nepal's forests have been spared the damages that have affected other conflict-affected countries is that, unlike countries such as Cambodia and Liberia, Nepal has not employed a large-scale concession system to rapidly commercialize timber resources. Nor were parties to the conflict particularly effective at using forests to fund military operations through other kinds of arrangements. There were least a few instances of forest land occupancy by constituencies of the conflicting parties having been sanctioned, and this continues to require resolution as part of the reconciliation process. There are also reports that networks involving illegal timber traders based in other countries developed or were strengthened during the fighting.

The real test to preserve Nepal's forestry after recent conflicts is the continuing lack of consensus on constitutional and legislative processes. This has left the public sector role in forestry effectively leaderless and contributes to the overall lack of trust and confidence.

RESOURCE MOBILIZATION

Resource mobilization involves systems and practices that influence the levels and kinds of investment in the forestry sector, primarily those related to public expenditures, land allocation, and timber revenues. Resource mobilization also deals with the use of the country's forest capital stock to its greatest development advantage. The basic principle of effective resource mobilization is that

the rent generated from the resource exploitation should be channeled to priority expenditures and investments, quite possibly in other sectors of the economy. In the context of forestry, resource mobilization seeks to generate net development benefits by investing the right amount of resources into forestry and by generating and distributing the right amount from the forestry sector. The main resource mobilization performance and policy issues in forestry sector of Nepal are forest land allocation, forest revenue performance, benefit-sharing arrangements, and budgetary allocation.

Forest Land Allocation. The connections between forestry and other sectors are most apparent in respect to land: competition for land and land allocation. The long-term prospects for forests in Nepal are intimately linked to the development of agriculture through technological and structural changes. The ways in which policy and investments in agriculture and other sectors that potentially occupy forest land are planned, implemented, and controlled critically affect all aspects of forest development. Innovations in land use planning, such as adoption of a landscape approach, have yet to be employed in Nepal, but could have valuable applications.

Although more than 60 acts and regulations govern land issues, there is no legal mechanism for the transfer of forest land to other uses in Nepal. Coordination on issues related to land allocation among different governmental and nongovernmental line agencies is lacking. As a result, there is no long-term land use and development plan. Although there is no clear mechanism for the allocation of forest land to other uses, the government nonetheless provides forest land for major development activities in the country, including infrastructure development, resettlement, and government offices. Though these government-sponsored programs have a clear focus on poverty alleviation and the empowerment of socially and economically suppressed communities, they are not effective in achieving these results, due to the lack of transparent criteria and processes for land allocation and because of weak monitoring and enforcement capability.

In terms of allocation to different management regimes, forest lands have not been systematically zoned on the basis of their economic potential or conservation value. Nepal has allocated about 20 percent of its land to its protected area system, which also includes meadow and snow-covered land, and assigned management to the Department of National Parks and Wildlife Conservation. Yet the diversity of wild flora and fauna is not fully represented in the protected areas. Despite the perception that all forests outside protected areas are productive forests, there is a continuing need to define zones of intensive use (i.e., potential to be converted into nonforest use), sustainable management, and conservation value with due consideration for the local environment.

Forest Revenue Performance. The main systems and processes that have been devised for revenue generation include logging and harvesting of other forest products, rules regarding tree selection and regeneration, creation of public enterprises, and benefit-sharing arrangements offered under various tenure and management schemes. However, as discussed in chapter 2, the revenue generated from timber and fuelwood fluctuates but remains relatively low in comparison with its potential. The main reasons for unsatisfactory forestry revenue performance are inefficient mechanisms, low royalties, waste in harvesting and extracting operations, irregularities in measurement and grading, misreporting of species, and under-reported volumes.

One of the mechanisms Nepal has set up for raising revenue from forestry is the establishment of parastatals, including the Timber Corporation of Nepal, the Forest Product Development Board, and the Herbs Production and Processing Company Ltd. These parastatals have different organizational structures and are governed by their respective acts, regulations, and directives. They also receive

preferential treatment from the government in logging, processing, market accessibility, and quotas, as well as exemptions from paying royalties. Even with these advantages, these agencies have not been able to mobilize resources as expected.

The revenue performance of the TCN, which was established to supply sawn timber and fuelwood to the public and collect revenue for the government, has not been satisfactory. The TCN has consistently recorded operating losses despite its preferential access to raw material and access to lucrative protected markets. For most years, income generated through timber sales is not even enough to cover its administrative costs.

TABLE 3.2. FINANCIAL PERFORMANCE OF THE TIMBER CORPORATION OF NEPAL (NR)

	1998/99	2008/09	2009/10
Income			
Sales	229,850,442.06	29,937,482.36	304,308,734.56
Misc. income	4,114,110.03	7,047,421.98	2,573,977.94
Final balance	30,580,053.11	93,760,604.17	156,758,377.56
Net loss copied in statement	3,583,520.27	27,618,835.12	-
Expenditure			
Initial balance	57,464,586.45	148,021,210.17	93,760,604.17
Production cost – logging	142,416,088.45	196,288,868.64	146,587,893.76
Production cost – milling	3,639,683.16	2,695,636.49	897,641.20
Administrative and sales expenditure	62,961,474.74	80,098,251.70	7,210,436.33
Seasoning and preservative	-	-	3,819,776.44
Depreciation	1,646,293.12	702,376.63	632,138.96
Net profit copied in statement	**20,600,000.00**		**145,841,599.20**

Sources: TCN Strategic Plan, 2008/09; TCN Annual Progress Report, 2010.

The underperformance of the TCN is due, in part, to poor governance and inefficient operation. The corporation has curtailed distribution incentives, resulting in heavy capital losses. It has been increasingly subject to overstaffing (often as political patronage) and underutilization of human and physical resources.

Benefit-sharing Arrangements. Another revenue-generating mechanism from the forestry sector is the benefit-sharing arrangements under various tenure and management schemes. Provisions under forest laws entitle the government to various shares of the revenue generated from different forest management arrangements. Under community forestry, CFUGs are allowed to enjoy 100 percent of the revenue generated from the sale of all forest products, except for sal (*Shorea robusta*) timber and khair (*Acacia catechu*) wood, for which 15 percent of the total revenue generated from the sale of these products outside their membership has to be paid to the government through the respective DFO. In collaborative forest management being developed in the Terai, 25 percent of the net revenue generated from the sale of forest products goes to communities through District Forest Coordination Committees, while 75 percent is retained at the central treasury. Under the buffer zone management programs developed around parks and protected areas, 30–50 percent of the revenue generated by parks or reserves has to be channeled directly to the respective local communities for

socioeconomic development as well as biodiversity conservation activities in the respective buffer zones.

Disputes have arisen over the fairness and legitimacy of the differences between the benefit-sharing arrangements provided by these various management regimes. Depending on classification and location, communities involved in essentially the same kinds of activities could stand to receive substantially different revenues.

Other potential opportunities for generating revenue come from emerging markets for forest carbon emissions reduction and sequestration, such as through REDD+ and other payment schemes for ecosystem services.

Budget Allocation. The annual budget for the forestry sector for fiscal year 2010/11 was Nr 4.47 billion (US$63 million), which is 1.3 percent of the total budget. About 63 percent of the budget for the forestry sector was spent on salaries and allowances to support about 10,000 staff, including about 700 army personnel deployed to protect the national parks and reserves of the Terai and adjoining areas. Typically, about 90 percent of the forestry sector budget is spent on current expenditure, whereas only 10 percent is spent on capital expenditure.

Forests are regenerating with the active protection of local communities in the Middle Hills. In contrast, most of the forests of the Terai and adjoining areas, where the majority of forestry staff are stationed and where the government has allocated more money for forest protection, are declining in both area and stock. Therefore, resource allocation and expenditure on forestry do not seem to be effective and efficient. Alternative ways of managing forests should be looked at from the public point of view.

A common complaint from interests within the forestry sector in Nepal is that forestry is underfinanced relative to other sectors, and that the national budgeting system does not consider the sector appropriately. One common explanation for this is that the budget shares are somehow related to estimated gross domestic product (GDP) shares, and that reported GDP shares misrepresent the value of forests. As a general principle, however, the criteria by which resources are allocated to forestry should be the same as for all other sectors and should aim to maximize the achievements of the government's overall fiscal objectives. The following examples suggest that budget allocation is not tied to GDP contribution and instead compensates either for the provision of public goods or for market failures in the allocation of resources.

TABLE 3.3: ILLUSTRATIVE SECTORAL BUDGET ALLOCATION AND CONTRIBUTION TO GDP (IN PERCENT)

SECTOR	CONTRIBUTION TO GDP	BUDGET ALLOCATION
Education	6–7	16
Health and social work	1.4	6
Public administration and defense	2	16
Agriculture and forestry	33	6.7

Source: Keshav Raj Kanel, 2011, "Budget Allocation and Expenditure in the Ministry of Forests and Soil Conservation: A preliminary Assessment". Prepared for the World Bank, Kathmandu, Nepal.

4 PERSPECTIVE, POSSIBILITIES, AND STRATEGIC IMPLICATIONS

As is clear from the analysis in chapter 3, for many sectors and indeed the economy as a whole, underlying governance weaknesses drive and help perpetuate a host of policy, technical, and other institutional failures in forestry. Some problems are rooted in the recent period of conflict and ongoing political uncertainty and insecurity, whereas others are even more longstanding and are the persistent heritage of feudal agrarian relations. The broad outlines of a strategy for getting the forestry sector moving will involve, or be consistent with, the principles of supporting better incentives, raising credibility and confidence in sector governance, and ensuring better matching of the benefits and costs. The continuing process of national reconciliation and settlement on a national constitution obviously limits the pace and extent to which gains are likely to be achieved in the forestry sector. Nonetheless, the potential irreversibility of deforestation and forest degradation and a broad consensus on many forestry issues among Nepali stakeholders, coming at the same time as potential changes in the global forest and climate regimes, raises the possibility of the forestry sector leading the restoration of sustainable development and being a unifying force in Nepal.

Developments in Nepal's forestry sector do need to be considered in a balanced light. Nepal has a deserved reputation for innovation in forest policy and implementation. As an incubator of the community approach that is now embraced worldwide, Nepal has been a global leader in forestry over the past 25 years. In comparison with other conflict-affected states, Nepal's forest sector has proven relatively resilient. This chapter picks up from the themes explored in the previous chapter and proposes some elements of a strategy for reforms that could help restore the forestry sector. It presents selected specific options, some of which are already under development by sector authorities and merit implementation, including programs to reduce emissions from deforestation and forest degradation.

TOWARD STRATEGIC REFORM PRINCIPLES

There remains in Nepal a lack of consensus among forestry stakeholders, and a compelling vision for forestry development continues to be needed. International partners can help, but cannot substitute for strong leadership from within Nepal in moving the sector forward. In other countries, participatory processes have been good at developing consensus on policy and legislative frameworks, and this sort of approach could be taken in Nepal to develop a guiding forest policy and strategy for the whole sector. Recent work by the leadership of the Ministry of Forest and

Soil Conservation to put forward the themes of forestry for prosperity, scientific and sustainable management of forests, sustainable use of forest resources, good governance, and an enabling environment for forest sector development, could form the basis for reform and could find support from international development partners. Based on the analysis in this report, further development, through a participatory process, of a widely held vision should build on several lessons and themes:

Do Not Back Away from Community Forestry. Community forest management has been the most successful institutional innovation introduced into the Nepali forestry sector in the past quarter century. A considerable portion of the current public debate and unease among stakeholders concerned with Nepali forestry originates from a serious concern that policy makers in the sector will move to reverse the embrace of community forestry as a central element of forest policy. Given the near-complete coverage of the Middle Hills forests by community-based management, it is clear that much of the current tension arises specifically in relation to the slow pace of community forestry expansion in the Terai, and to doubts regarding the viability of a community-based approach to forestry there. The uncertainties and doubts about the commitment of forest sector leaders to a continued embrace of community-based approaches are among the most serious obstacles to renewed progress in forestry in Nepal.

There are genuine constraints to operationalizing large-scale community forestry in the Terai. These include problems related to greater ethnic and cultural diversity, greater opportunities and risks of elite rent-capture, the porous international border that enables illegal exports, alternative land uses, and the greater challenges of biodiversity and wildlife conservation. Although these and other factors make the Terai a more complex environment for community forestry than the Middle Hills, they do not constitute insurmountable obstacles.

Taking community forestry forward aggressively in the Terai will require modifications from the systems developed for the Middle Hills. In particular, greater emphasis will be needed on the development of technically sound forest management prescriptions; formulation of more robust commercial, financial, and accounting practices for the management of timber revenues; development of mechanisms for reasonable controls; and regulation of forest practices that ensure satisfactory landscape-level management across areas under the immediate management of individual CFUGs. Appendix A presents an examination of timber sale practices and detailed recommendations for strengthening controls in community forestry operations.

Recognize That Some Further Conversion of Forests Is Inevitable and May Be Appropriate. Although the relatively high rate of deforestation in the Terai ought to be of concern, Nepali forest policy makers and stakeholders need to recognize that some conversions of forests to other land uses are appropriate, sustainable, and desirable. Currently, deforestation is essentially unplanned and chaotic, with few or no controls to ensure that the subsequent land uses are economically and socially viable and sustainable. Some recent settlements within forest areas, for example, have been the result of actions and decisions made during the recent period of conflict, and have left communities with uncertain land rights, without access to basic social services, and with little prospect of the kinds of public services needed to make new settlements viable (roads, extension advice, irrigation, and so forth).

Supportive policies and programs in other sectors that can help diminish pressure on forest land are important priorities for the forestry sector itself. In particular, promotion of inclusive agricultural development through increased availability of improved inputs, improved marketing opportunities, and access to credit and land, in addition to development and poverty reduction justifications, have important contributions to make in supporting sustainable forestry in Nepal. Given the role of forestry in hydrologic systems affecting irrigation, particularly small-scale systems, payment for environmental service schemes could help alleviate stresses promoting forest conversions.

Determination of a permanent forest estate, and by exclusion the identification of areas to be made available to alternative land uses, will require a process that goes beyond the purview of the Ministry of Forests and Soil Conservation. It will require a genuinely multisectoral and multistakeholder process, and will need to be based on a legislative foundation that is not currently in place in Nepal.

Pursue Remedies Against Corruption and Criminal Allegations and Adopt a Risk-based Approach to Prevent Forest Crime. Investigations into alleged crimes in forestry and into corruption allegations against forestry officials have been undertaken by appropriate agencies of government, including the Natural Resource Committee of the Legislature-Parliament, the National Vigilance Centre, and a high-level judicial commission for the forestry sector. These investigations have advanced reports and charges that need to be pursued further in keeping with Nepali laws. Where charges can be supported, government should ensure there is no political interference whatsoever in order to pursue appropriate penalties and sanctions against offenders and, importantly, should take action to recover the proceeds of crime. An important and positive aspect of the official and public controversy over forest crime and corruption is that it is exactly the kind of intersectoral and public oversight of forestry that is sorely lacking in in many countries.

While reaching acceptable conclusion to currently identified and future cases of corruption and forest crime is a priority, the Ministry of Forests and Soil Conservation should also take stronger and more effective proactive measures to prevent and deter criminal activity in the forest sector. There are few controls in any aspect of the Nepali forestry sector to effectively prevent crime. As discussed in detail in appendix B in regard to timber sales, timber transaction processes—from initial steps in FMU planning to harvest operations, to the design and conduct of tenders and auctions, to the documentation and accounting of revenues—is open in many places to abuse and manipulation. The system of frequent rotations of staff, for example, which many countries and businesses use to mitigate risks that long tenures in particular locations raise for corrupt relationships, does not seem to work in the Nepali forestry sector and is reported to have given rise to an illicit market for prime assignments. More efforts are needed to stringently enforce the existing provisions of Nepali law, such as asset and interest disclosure across the forestry bureaucracy and at senior levels of government.[8]

Rationalize Forest Administration. Offering specific proposals on the organization of the Nepali forestry sector bureaucracy is well beyond the scope of this review. However, reconsideration of how the public forestry apparatus is organized is clearly needed. Although it is common to hear criticism of the size of the national budget allocated to the forestry sector, government spending on forestry

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[8] For further details on crime and corruption prevention measures for the forestry sector, see Magrath et al. (2007).

is surprisingly large, totaling US$46 million in 2010. In contrast, revenues from forestry amount to only about US$10 million. While many of the services of forests are not marketed, and there is no reason to expect the government forestry apparatus to operate at a profit, the large net burden of the forestry sector clearly merits further investigation and justification. This is especially clear in light of the generally poor performance of those parts of the forestry sector where the public sector is most prominent.

Aside from the pure size and expense of the forestry bureaucracy, consideration needs to be given to organizational and structural aspects. This will be especially important should Nepal's political process move toward a federal structure. In considering the organization of forest administration, greater attention should be given to matching structure with territorial responsibilities and functions. For example, while operational units under the Department of National Parks and Wildlife Conservation are aligned on a territorial basis, the Department of Forestry is structured around district lines. In the Middle Hills, where the handover of forests to CFUG is nearly universal, the primary functions of District Forest Offices are provision of development services, such as technical assistance and extension and supply of materials. These development support functions align closely with those of other district units and are appropriately organized and governed on an administrative basis.

In contrast, in the Terai where government-managed forests remain concentrated, natural forest boundaries may or may not align with district boundaries. Reliance on administrative definitions to support the functions of forest area management increases the difficulty of control and management and diffuses accountability. As part of development of a concerted effort to improve forest management in these areas (as suggested below), consideration needs to be given to the establishment of organizational arrangements based on FMUs. This should be complemented by considerations of the size, significance, and management needs of specific forests, and should reinforce consideration of the scope for devolution of management and control to local communities or local levels of government. This would coincide with retention of some district-based units in the Terai, as in the Middle Hills, with functions oriented toward support of local development (for example, agro-forestry extension, provision of planting material).

Reform of Timber Marketing Systems. Nepal's existing timber marketing arrangements amount to a prohibitive tax on forestry development in Nepal. While the share of wood marketed through TCN has shrunk in recent years, it remains a seriously distorting force. Alternatives to TCN for the disposal of publicly owned timber are being developed by the Ministry of Forests and Soil Conservation. Consensus has been reached on critical elements of reforms, such as separation of technical management and financial functions, and on the importance of driving toward market-based timber sales.

PUBLIC INVESTMENT AND CAPACITY BUILDING PRIORITIES

The large share of expenditures on recurrent costs of forestry bureaucracy, and the low level of investment in long-term physical, human, and organizational capital in the forestry sector, present Nepal with, on the basis of the kinds of institutional and policy reforms discussed in this report, many opportunities for productive investments in forestry. Despite the long sequence of international assistance to the Nepal forestry sector that has built up a large reservoir of talent both in public sector agencies and in private and civil society sectors, this expertise has not been effectively mobilized, especially in the public sector.

Enable Development of Value-Addition to Nontimber Forest Products. Transfer of forest ownership rights is an important step in the mobilization of forest resources for income generation and poverty reduction, but it is only the first step. A sustained forest-based development strategy is critical for forest-based development needs to move beyond the resource itself. Several NTFPs currently commercialized in Nepal illustrate the potential for deepening supply chains and capturing more value for the Nepali economy.

Development of Production Forest Management Systems in the Terai. An urgent priority should be the introduction, on a large scale, of high-quality multiple-use forest management in the Terai, currently nominally under government forest management. There are important uncertainties and disputes around the management systems and regimes that are most appropriate and desirable, but these should not be allowed to distract from the fundamental reality that, in the absence of an aggressive management effort, continued and irreversible loss of forests is inevitable.

A forest management program for the Terai could and should be developed out of the resource information being assembled under the Forest Resources Assessment. It would begin with the identification of contiguous areas of reasonably well stocked forests and the establishment of management organizations specifically charged with the preparation of long-term strategic management plans for their respective areas. More or less standard forest planning approaches and inventory and survey methods could be adapted relatively quickly to the strategic planning body that could be tasked with developing site-specific approaches for engagement with local communities and safeguarding biodiversity and other environmental values. As a practical dimension, targeting efforts to a limited number of priority sites would need to be considered. However, care is needed to ensure that “piloting” does not become an excuse for delays in widespread application of planning and operational principles already known and tested in Nepal (as was the case of pilot efforts with Operational Forest Management Plan development in the 1990s).

Alongside this planning, work would need to commence on the development of contractual arrangements with local communities and other stakeholders, plan and operations reviews, and approval processes. These would need to be in place prior to approval and commencement of operations.

OPPORTUNITIES FOR INTERNATIONAL SUPPORT

International donor assistance has followed different policy goals in Nepal over time. For example, the first World Bank investments directly related to forestry in Nepal were actually related to the conversion of forest land to agricultural settlement and included finance for works by the Timber Corporation of Nepal. Beginning with the Hill Community Forestry Development and Training Project in 1980, the World Bank turned its attention to sustainable forest management, and particularly to supporting the then-emerging Community Forestry Policy. Over the next 20 years, the World Bank supported three more forestry projects in Nepal with a total commitment of more than US$68.4 million. Today the World Bank, through its Forest Carbon Partnership Facility, is supporting Nepal's REDD Readiness efforts and is preparing a possible project to support protected areas management in the face of climate change through a grant from the Pilot Program for Climate Change.

REDD is a component of the world community's response to global climate change due to the accumulation in the atmosphere of carbon dioxide released from combustion of fossil fuels and from land use changes and other manmade sources.

The ongoing REDD Readiness Preparation work of the MFSC, supported by a US$3.6 million grant from the Forest Carbon Partnership Facility, aims to establish the preconditions for Nepal's participation in what could be a lucrative system of international payments for the preservation of forests. The REDD Readiness Program is being developed around the concept that to be successful in attracting resources, Nepal will need to both reduce deforestation and be able to credibly document these reductions against an internationally accepted baseline. The Readiness program therefore consists of studies and pre-investment work aimed at developing an overall strategy for reducing deforestation; systems for monitoring, reporting, and verifying forest carbon emissions reductions; construction of a credible baseline or reference scenario based on current forest area; stocking and historic levels of deforestation; and environmental and social assessments to identify risks and possible mitigation strategies.

Realization of REDD, however, will require more than the mere preparation of plans and strategies. It will require the introduction of genuine and effective institutional and policy reforms, such as those discussed in this report that will address the underlying drivers of deforestation and forest degradation. And, it will also need to be supported by physical investments and investments in capacity building that will enable sustainable forest resource management over the whole range of Nepal's forest landscapes. REDD Readiness preparation presents an opportunity to build on and reinforce the decentralized, community-based forest management systems that have been successful in Nepal. In particular, early work suggests important possibilities to link emissions and forest change monitoring with technical and governance improvements in community forest management.

The REDD Cell is now conducting work that could form the basis for definition and preparation of a viable investment project that would combine elements of a top-down National Forest Inventory process with bottom-up Community Forestry User Group operational forest management capacity building. This would, among other things, provide a platform for addressing some of the unmet second-generation community forestry issues discussed in this report, strengthening the role of CFUGs in REDD, and for using REDD as a mechanism for strengthening incentives for public agency performance in maintaining current forest resource data.

APPENDIX A: DATA

This appendix summarizes basic facts and data about Nepal's forests and their contribution to livelihoods and the economy. Basic statistics on the forest resources include measures of areas, stocking, production, and consumption of forest products. Even though much of the available data are old and there are quality concerns and inconsistencies, they do provide a useful broad picture of the Nepali forestry sector's direction. The main idea is to set the basis for discussion on why, despite forests' significant contributions to livelihoods and the economy, deforestation and forest degradation are still ongoing and significant.

FOREST AND LAND RESOURCES

Nepal is a land-locked, mountainous country consisting of five physiographic zones: (a) High Himal, (b) High Mountains, (c) Middle Hills, (d) Siwaliks, and (e) Terai. Each is characterized by different land uses and capabilities, and forests play different roles in the landscape and have different social and economic potential.

TABLE A.1. LAND USE IN PHYSIOGRAPHIC ZONES OF NEPAL (THOUSAND HECTARES)

REGION	NATIONAL FORESTS		PLANTATION	ENRICHED FORESTS	SHRUB AND DEGRADED FORESTS	GRASSLANDS	NON-CULTIVATED INCLUSION	FARM LANDS	OTHER LANDS	TOTAL
	AREA	%								
High Himal	155	5	0	0	167	885	1	8	2,234	**3,350**
High Mountains	1,629	55	5	5	176	508	148	244	245	**2,960**
Middle Hills	1,762	40	30	19	404	278	148	667	1,223	**4,442**
Siwaliks	1,433	76	4	1	29	16	59	269	75	**1,886**
Terai	445	21	30	0	30	58	123	1,308	116	**2,110**
Subtotal	5,424	37	69	25	706	1,745	998	3,052	2,729	**14,748**
Percentage	**37**		**0**	**0**	**5**	**12**	**7**	**21**	**19**	**100**

Source: Carson et al. 1986.

As shown in the table A.1, among the five physiographic zones, Siwaliks boasts the largest percentage of forest (76 percent). Only 55 percent of the High Himal and 40 percent of the Middle Hills remain forested. The low share of High Himal is primarily because of the harsh climate. Despite a favorable climate, only 21 percent of the Terai, which was originally mostly covered with tropical vegetation, remains forested.

TABLE 2. LAND USE CHANGE OVER TIME (YEARS) AREA IN HECTARES

Land Use Types (ha)	YEAR 1991/1992				YEAR 2001/2002			
	Himal	Hills	Terai	Total	Himal	Hills	Terai	Total
Cultivated land (Total)	207,761	1,721,450	1,038,806	2,968,017	210,635	1,798,158	1,081,987	3,090,780
Non-cultivated land	494,998	436,300	55,600	986,898	517,309	448,491	64,590	1,030,390
Forest (Total)	233,346	4,435,809	1,158,845	5,828,000	228,100	2,890,606	1,149,494	4,268,200
Shrub	137,800	511,608	39,000	688,408	167,800	1,254,178	138,132	1,560,110
Grass land	132,644	1,589,278	35,423	1,757,345	137,644	1,592,093	36,423	1,766,160
Other	796,618	1,667,919	24,894	2,489,432	946,212	2,024,775	31,474	3,002,460
Grand Total	**2,003,168**	**10,362,364**	**2,352,568**	**14,718,100**	**2,207,700**	**10,008,300**	**2,502,100**	**14,718,100**

Source: Kanel et al. 2009.

From 1991 and 2002, the most recent period for which comparable data are available, forest area declined by 155,988 hectares (ha), about 14 percent. During the same period, the total forest area in the hills was reduced by 1,545,203 hectares. The decline in forest area in the hills resulted mainly from the increase in other forms of land use. While forests shrank, cultivated land area expanded. Over the same period, cultivated land area increased by 76,708 hectares (from 16.6 percent to 18.0 percent). In the Terai, 9,351 hectares of forest area were lost. Gaps in demand and supply, illegal logging, encroachment, settlement of landless people, forest fires, invasion by invasive species, and use of land for other purposes are some of the factors that have led to deforestation and degradation in the Terai.

TABLE A.3. LAND AREA UNDER DEGRADATION

LAND USE CATEGORY	DEGRADED AREA (MILLION HA)	TOTAL LAND AREA (MILLION HA)	LAND DEGRADATION (%)
Poorly managed forest	2.1	5.828	36.03
Poorly managed sloppy terraces	0.29	2.969	10
Degraded rangeland/open land	0.647	1.75	37
Areas damaged by floods and landslides (1984 to 2003)	0.106	11.551	0.72
Forest encroachment	0.119	5.828	2.04
Total	**3.262**	**11.551**	**28.24**

Source: MEST 2006.

As shown in table A.3, estimates show land degradation is one of the major problems confronting sustainable management of the forest resources in Nepal. Poor management of forests alone accounts for the degradation of 2.1 million hectares or 36.03 percent of the total forest area. Forest encroachment, which accounts for about 2.04 percent of land degradation, is another rapidly emerging threat to sustainable forest management in Nepal.

FOREST QUALITY AND CONDITION

Some of the more distinctive and clearly identifiable forest types found in Nepal are (a) alpine scrub forest (above 4,100 m), (b) sub-alpine forest (3,000–4,100 m), (c) temperate coniferous forest (2,000–3,000 m), (d) upper temperate mixed broad-leaf forest (2,500–3,500 m), (e) lower temperate mixed broad-leaf forest (1,700–2,200 m), (f) subtropical conifer (pine) forest (1,000–2,200 m), (g) subtropical broad-leaf forest (1,000–2,000 m), and (h) tropical forest (below 1,000 m). Forests of *Pinus roxburghii, Schima wallichii/Castanopsis indica*, and *Shorea robusta* are found in the Siwalik Hills and the Terai and account for the major share of the forest area in the country (Singh et al. 2010).

PRODUCTION AND CONSUMPTION

Even though there is no consistent reliable data on sustainable production, the current forest productivity level in Nepal is believed to be much lower than its actual potential. The current annual increment of the forests in Nepal is estimated to be about 0.6 to 1.2 cubic meters per hectare.

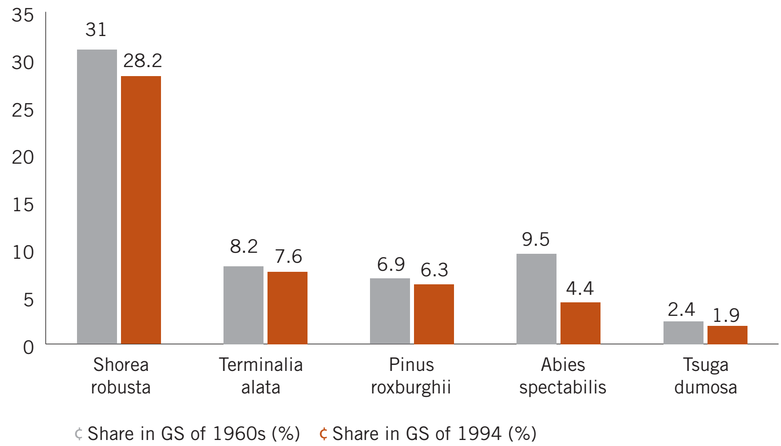
TABLE A.4. SUSTAINABLE PRODUCTION FROM THE FOREST IN NEPAL

FOREST CATEGORY	AREA (MILLION HA)	PRODUCTIVITY (M^3/HA/YEAR)	TOTAL SUSTAINABLE PRODUCTION (MILLION M^3/YEAR)
Potential production forest	1.39	6	8.34
Hills and mountain forest	4.43	3	13.31
Total	**5.82**	**n/a**	**21.64**

Source: FAO 2009.

Table A.4 illustrates forest sustainable production in Nepal. With average productivity of 6 m^3/ha per year in the Terai and 3 m^3/ha per year in the hills and mountains, the total sustainable production from the forests in the Terai and hills and mountains are expected to be about 8.34 and 13.31 million m^3 per year.

FIGURE A.1. GROWING STOCK (GS) COMPOSITION BY TREE SPECIES



Source: FAO 2009.

Figure A.1 illustrates the composition of the growing stock and change over time. *Shorea robusta*, which is locally called sal or Sakhuwa, accounts for the largest share of the growing stock. The share, however, of *Shorea robusta*, and all other common tree species that account for the larger share of the growing stock, has been declining. Over the period of 1960–94, the growing stock share of *Shorea robusta* declined by 2.8 percent, *Terminalia alata* by 0.6 percent, *Pinus roxburghii* by 0.6 percent, *Abies spectabilis* by 5.1 percent, and *Tsuga dumosa* by 0.5 percent.

FOREST MANAGEMENT AND ALLOCATION

The handing over of national forests to local communities through community forest user groups was made possible by enactment of the Forest Act in 1993, and has been taking place all over the country since then.

TABLE A.5. FOREST AREA UNDER DIFFERENT OWNERSHIP STATUS

CATEGORY	SUBCATEGORY	AREA (THOUSAND HA)
National forest	Government-managed	3,902.27
	Community forest	1,200
	Leasehold forest	14.73
	Religious forest	0.543
	Protected forest	711
Private forest	Private forest	2.3

Source: Adapted from FAO 2009.

Table A.5 illustrates various forest management regimes and the area they occupy. Government-managed forest is still the largest, followed by community forestry under the national forest category. Government-managed national forests occupy 3,902,270 hectares of land. With 1.2 million hectares of forest controlled by more than 14,000 forest user groups across the country, forest user groups manage more than one-quarter of the total national forest in Nepal. The Leasehold Forestry

Programme is implemented as a livelihood strategy for rural poor, landless, and marginalized households of the hilly region and occupy 14.73 thousand hectares. Private forests occupy only 2.3 thousand hectares of land.

TABLE A.6. EXPANSION OF COMMUNITY FORESTS

YEAR OF HANDOVER	NO. OF CFUGs FORMED	AREA HANDED OVER (HA)	NO. OF HOUSEHOLDS	AREA PER HOUSEHOLD (HA)
Before 1985	98	5,661.99	10,596	0.53
1985	1	15.5	53	0.29
1988	1	27	35	0.77
1989	10	567.96	1,115	0.51
1990	42	1,972.57	4,492	0.44
1991	87	5,011.53	12,973	0.39
1992	349	20,844.55	36,214	0.58
1993	737	52,121.01	80,944	0.64
1994	1,224	88,745.39	142,772	0.62
1995	1,654	120,817.47	179,876	0.67
1996	1,762	156,889.46	196,203	0.8
1997	1,592	133,978.83	177,390	0.76
1998	1,443	136,603.51	168,939	0.81
1999	1,157	99,210.00	135,182	0.73
2000	1,074	90,872.65	121,796	0.75
2001	850	84,773.63	96,737	0.88
2002	597	51,677.02	74,295	0.7
2003	578	43,496.10	67,697	0.64
2004	493	38,770.41	59,844	0.65
2005	42	7,176.44	8,359	0.86
Total	**13,791**	**1,139,233.02**	**1,575,512**	**0.72**

Source: Department of Forests 2005.

Table A.6 chronicles the evolution and expansion of community forestry in Nepal. The decentralization of forest resources, which started on an experimental basis in the form of community forestry in late 1970s and early 1980s, was formally recognized as a viable model after its initial success in 1990s. Currently, 74 of 75 districts in Nepal have community forests; the only one that does not is Mustang (Kanel 2004). There has been a phenomenal rise in the number of CFUGs over the years: from 98 in 1985, to 13,791 in 2005. The total forest area handed over to local communities has also increased substantially over the years: 5,661.99 hectares before 1985, and 1,139,233.02 hectares by 2005.

To protect rare forests and precious wildlife, the government has established protected areas (national parks, wildlife reserves, hunting reserves, and conservation areas) throughout the country. From the establishment of the first national park in 1973, forest conservation has come a long way. Parks and protected areas cover approximately 2.4 million hectares of land in Nepal. Currently,

there are nine national parks in the country, three wildlife reserves, one hunting reserve, and three conservation areas. Table A.7 illustrates the types of protected areas and their forest and shrub cover. Despite consistent conservation efforts over the years, there has been a decline in the forest cover. This has been happening not only in the unprotected forests but also in the protected areas (figure A.2), which is counterintuitive.

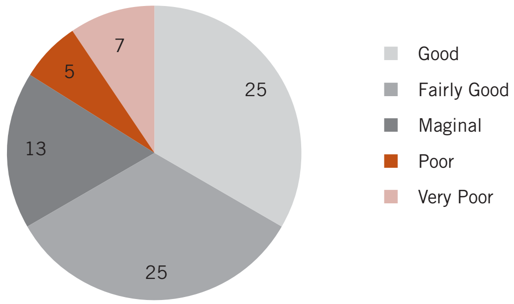
TABLE A.7. PROTECTED AREAS

PROTECTED AREAS (YEAR OF ESTABLISHMENT)	1990 (THOUSAND HA)	2008 (THOUSAND HA)	FOREST AND SHRUB (%)
National Park (NP)			
Chitwan (1973)	93.0	93.2	80.0
Bardia (1976/1988)	97.0	97.0	
Shivapuri and Nagarjun (2002)		16.0	
Khaptad (1984)	23.0	23.0	
Makalu Barun (1991)		150.0	86.0
Sagarmatha (1976)	115.0	115.0	2.0
Langtang (1976)	171.0	171.0	69.0
Shey Phoksundo (1984)	356.0	356.0	
Rara (1976)	11.0	11.0	
Subtotal NP	864.0	1,050	44.8
Wildlife Reserve (WR)			
Koshi Tappu (1976)	18.0	18.0	10.0
Parsa (1984)	50.0	50.0	49.0
Suklaphanta (1976)	31.0	31.0	
Subtotal WR	98.0	98.0	87.5
Hunting Reserve (HR)			
Dhorpatan (1987)	133.0	133.0	16.0
Subtotal HR	133.0	133.0	12.1
Conservation Area (CA)			
Kanchanjunga (1997)		204.0	49.0
Manaslu (1998)		166.0	
Annapurna (1986, 1992)		763.0	153.0
Subtotal CA	0.0	1,133.0	20.9

Source: FAO 2009.

Direct and indirect effects of *decline in forest cover* may have a lasting impression on stability of *watersheds across the country*. Out of 75 districts, 50 have watersheds in good condition. Watershed condition is marginal in 13, poor in 5, and very poor in 7 districts (see figure A.3).

FIGURE A.2. WATERSHED CONDITIONS IN THE DISTRICTS OF NEPAL



Source: FAO 2009.

CONTRIBUTION TO RURAL LIVELIHOODS AND THE ECONOMY

Forests and shrubland are integral parts of Nepal's environment and are thoroughly integrated into agriculture and rural livelihoods. The rural population (more than two-thirds of Nepal's population) relies on forests for fuel, wood, grass, food, fibers, spices, resins, gums, latex, and medicinal plants. Forests also provide a multiplicity of nontimber forest products (NTFPs) for household, commercial, and industrial use. With increased demand of NTFPs such as herbal cosmetics, herbal tea, food, and medicines, both within and outside the country, the overall value of NTFPs has increased considerably over the years.

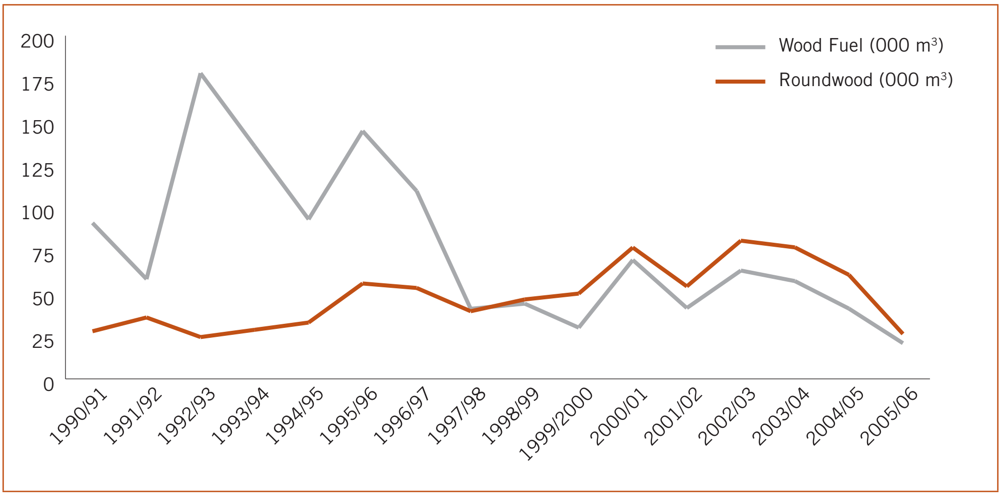
TABLE A.8. PRODUCTION AND CONSUMPTION OF DIFFERENT WOOD PRODUCTS IN NEPAL

PRODUCTS	PRODUCTION	CONSUMPTION
Industrial round wood	152,676 m^3	100,044
Sawn wood	240 m^{3}*	585
Fuelwood	954,035 m^3	923,161
Plywood	16,720 m^2	NA
Strawboard	1,035 tonnes	NA
Paper	17,079 tonnes	NA

**By Timber Corporation of Nepal only.*
Source: FAO 2009.

Wood is the most important product harvested from forests. Table A.8 shows the production and consumption of different wood products. Wood is the most important source of energy for cooking, heating, and other purposes. Production and consumption of fuelwood and industrial round wood account for the largest share of wood produced and consumed in Nepal. In 2001, the total production and consumption of industrial round wood was 0.15 million m^3 and 0.1 million m^3, respectively. Likewise, the total production and consumption of fuelwood was 0.95 million m^3 and 0.92 million m3, respectively.

FIGURE A.3. WOOD REMOVAL STATUS FROM 1990/91 TO 2005/06



Note: 1993/94 estimated
Source: FAO 2009.

Figure A.3 shows the wood removal from 1990/91 to 2005/06. Although inconsistent, there has been an overall decline in wood removal over the years. The total amount of wood removed increased to 80,540 m^3 in 2002/03, but fell to about 26,210 m^3 by 2004/05. In 2005/06, only 20,790 m^3 of fuelwood was removed, a 77.13 percent reduction from its 1990/91 level, apparently due to (a) increased use of liquefied petroleum (LPG), (b) increased penetration of biogas, (c) lack of reporting of fuelwood sales, and (d) illegal extraction, among other things.

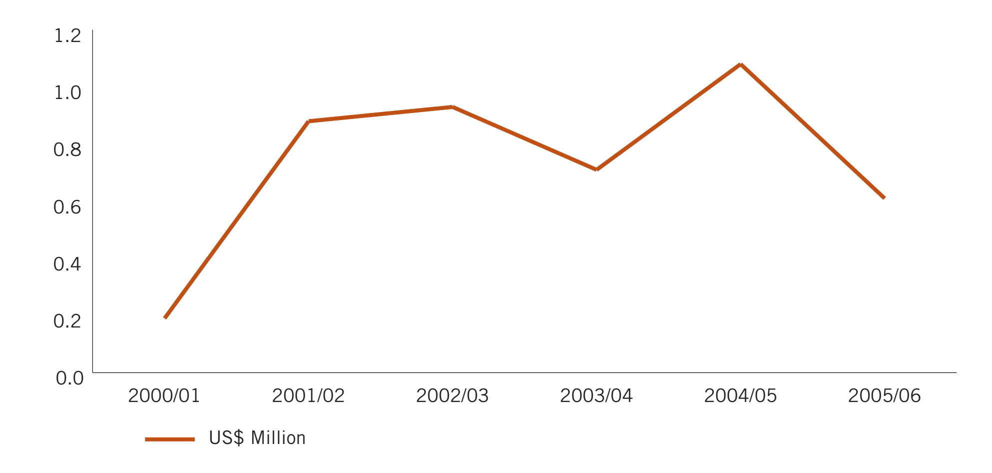
TABLE A.9. SOURCES OF FUELWOOD AND THEIR CONTRIBUTION TO THE TOTAL SYSTEM

SOURCES	SUSTAINABLE PRODUCTION (TONNES/HA/YR)	CONTRIBUTION(%)	
		1978	2003
Forest	2.1	73	59
Shrubland	0.69	4	17
Grassland	0.1	1	1
Non-cultivated inclusions (NCI)	0.69	5	5
Cultivated land	3.5	17	18

Source: WECS 2006.

Table A.9 shows that even though the contribution of other land types such as shrubland and cultivated land have increased over the years, forest still dominates the total fuelwood supply. Despite a 14 percent reduction in its share over the period of 1978 to 2003, it still has the largest contribution to the total system. In 2003, forest accounted for 59 percent of fuelwood supply in the country.

FIGURE A.4. VALUE OF NONTIMBER FOREST PRODUCTS (2000/01–2005/06)



Source: MOFSC 2010.

Figure A.4 illustrates the change in value of NTFPs over time. From US$0.19 million in 2000/01 to US$0.61 million in 2005/06, there has been a considerable increase in the overall value of NTFPs. The increase in value is largely because of the government's effort to market these products both nationally and internationally. The reported value of NTFPs is much less than the value of wood; in part this could be because of nonreporting of NTFPs collected. Every year, a large quantity of NTFPs is collected by rural people and often not reflected in any official government records. The fact that NTFPs are used locally for subsistence or sold in rural markets has resulted in the exclusion of NTFP-related information from official statistics.

Employment in the forestry sector has been increasing with the handover of the forests to local communities. Currently, 14,799 people are directly employed by the various government entities overseeing the forestry sector. Nepali army personnel in national parks and wildlife reserves account for 27 percent of the total employment, followed by the Department of National Parks and Wildlife Conservation, which employs 1,010 people (see table A.10).

TABLE A.10. DIRECT EMPLOYMENT IN FORESTRY SECTOR AGENCIES

OFFICE	TOTAL	PERCENTAGE
Ministry of Forests and Soil Conservation	78	0.50
Department of Forests	7,641	52
Department of Plant Resources	349	2.40
Department of National Parks and Wildlife Conservation	1,010	6.80
Department of Soil Conservation and Watershed Management	741	5.00
Department of Forest Research and Survey	104	0.70
Timber Corporation of Nepal	443	3.00
Forest Product Development Board	240	1.60
Herbs Production and Processing Company Limited	193	1.30
Army in National Parks and Wildlife Reserve	4,000	27.00
Total	14,799	100

Source: MOFSC 2009a.

In addition to government agencies, other stakeholders such as community forest groups generate employment, though modest compared to that of the government. Paid employment for local people equivalent to US$25 million—1.5 million person-days of paid employment—was generated by CFUGs in 15 Livelihood and Forestry Programme (LFP) districts. Likewise, in the Koshi Hills, community forestry has generated employment of about 1,50,000 person-days per year; 172 teachers are being paid by the CFUGs (Chapagain and Banjade 2009).

TABLE A.11. LIVELIHOOD IMPACTS OF COMMUNITY FORESTRY

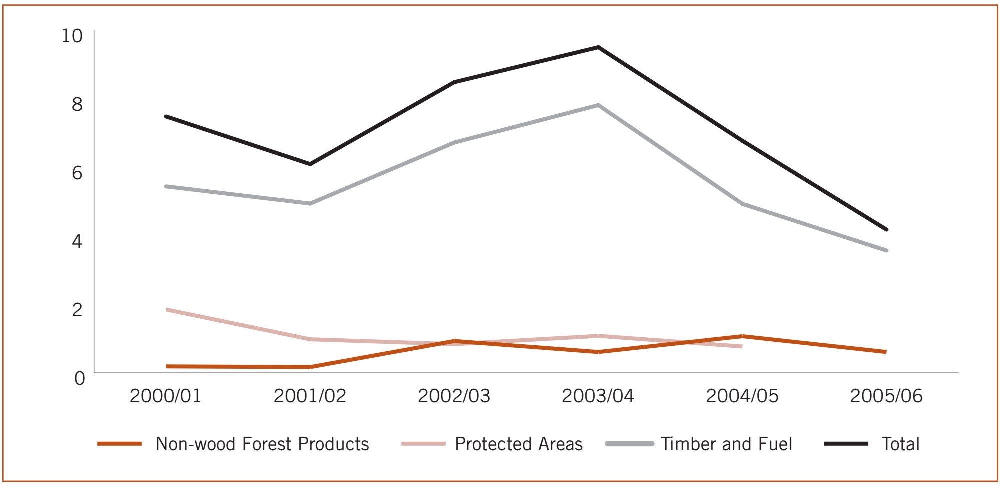
INDICATOR	NUMBER	SHARE
Households directly affected	1,659,775	32% (of total population)
Number of CFUGs	14,439	
Area of forest under CFUG management	1,229,669	25% (of total forest area)
Mean change in household income (2003–08, based on 2,700 households)	Nr 62,080 / US$802	61% (increase)
Employment	CFUGs from 15 LFP districts generated paid employment for local people equivalent to 180 million rupees—1.5 million person-days—of paid employment	

Source: Ojha et al. 2010.

Even though community forestry accounts for only 25 percent of the total forest area, 32 percent of total population either directly or indirectly benefits from it. Table A.11 shows the positive impacts of community forestry on rural income and employment. In 15 LFP districts, household income increased by 61 percent. Forest management and harvesting operations, community development, office management, education, and forest-based enterprises are some of the key areas where employment has been generated by the CFUGs. Even though the total number of jobs created by the CFUGs is not that large, it could have significant multiplier effects on economically depressed far-flung rural communities. Employment generated in rural areas also has positive effects on community revitalization and retention of human capital, which are crucial to rural poverty alleviation.

In addition to helping meet the subsistence needs of rural people, the forestry sector also contributes to the overall economy. The forestry sector's contribution to Nepal's GDP over 1990 to 2000 was approximately 4.4 percent.

FIGURE A.5. REVENUES FROM THE FORESTRY SECTOR FROM 2000/01 TO 2005/06 (IN MILLION US$)



No data for revenue from Protected Areas for 2005/06.
Source: FAO 2009.

Revenue from the forest sector has not been consistent. From US$7.48 million in 2000/01, the total revenue decreased to US$6.09 million in 2001/02, but this decline did not continue in the subsequent years. In 2002/03 revenue increased by US$2.39 million, and in 2003/04 by US$3.41 million from its level in 2001/02. After two years of continuous growth, revenue collection from the forestry sector took a hit: total revenue in 2004/05 and 2005/06 was 28.73 percent and 56 percent, respectively, less than in 2003/04. The ongoing political instability is one major factor behind the decline in revenue from the forestry sector. Reduction in the number of the tourists visiting the protected areas has led to declining revenue in those areas. Increased illegal logging and trading of timber and fuelwood and its use by CFUGs without national accounting, and nonreporting of NTFP collection are some other reasons behind the decline in revenue from the forestry sector.

INSTITUTIONAL DIMENSIONS

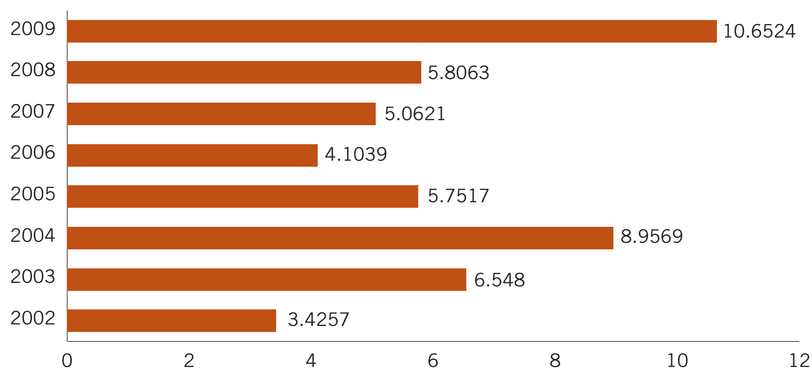
Nepal's forestry sector's poor performance does not seem to be the result of lack of financial resources. Despite growing deforestation and degradation, successive governments in Nepal have acknowledged the importance of the forestry sector, which is quite evident from the consistent rise in the budgetary allocation to the sector. From US$31 million in 2007/08, the total budget of MFSC increased to about US$62 million in 2010/11, a 50 percent rise in the budgetary allocation in a three-year period. Along with this rise, there also has been an increase in donor assistance to the sector. Switzerland, the United Kingdom, Norway, and Denmark have increased their contribution to the sector over the years (see tables A.12 and A.13 and figure A.6).

TABLE A.12. FORESTRY SECTOR ASSISTANCE FROM OTHER DONORS

DONOR	2002	2003	2004	2005	2006	2007	2008	2009
Australia	..	..	..	..	-1.5145	-0.0861	..	0.0651
Austria	..	..	..	..	..	0.0168	..	..
Canada	..	0.0643	0.1486	..	0.1252	-0.0019	..	0.0262
Denmark	..	0.0245	0.2009	0.5664	0.1528	0.4601	0.5022	0.5319
Germany	..	0.9894	1.1351	1.2711	0.2246	..	..	..
Netherlands	0.8944	0.7183	2.7443	..	..	..	..	..
Norway	..	0.1058	0.0613	0.099	..	..	..	0.6371
Switzerland	0.6423	1.3896	0.7242	1.1277	0.8634	0.961	1.4864	1.4799
United Kingdom	1.889	2.3155	3.0144	2.256	4.1842	3.7008	3.8075	6.5474

Note: Net disbursement is negative for years where repayments on loans made exceeded Official Development Assistance (ODA) disbursements to that country (ODA = grants + loans – repayments of loans).
Source: Organization for Economic Cooperation and Development, Development Assistance Committee database.

FIGURE A.6. DEVELOPMENT ASSISTANCE COMMITTEE'S (DAC) CONTRIBUTION TO THE FORESTRY SECTOR FOR 2009 (IN MILLION US$)



Note: DAC includes Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Italy, Ireland, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, the United States, and the European Commission.

As forestry program donors spend a significant amount of their budget on forestry activities through "off-budget" mechanisms, which are not recorded in the national account, the total money spent on forestry is significantly higher than that reported by the government. Given the size of the sector and its contribution to the economy, the annual budget of US$62 million (for 2010/11) is a considerable amount. From US$3.425 million in 2002 to US$10.652 million in 2009, funding from the Organization for Economic Cooperation and Development, Development Assistance Committee increased by 32.15 percent (see figure A.6). Lately, there has also been considerable increase in the World Bank's involvement in Nepal's forestry sector (see table A.13).

TABLE A.13. WORLD BANK CONTRIBUTION TO NEPAL'S FORESTRY SECTOR FROM 1980 TO 2011

PROJECT NAME	PRODUCT LINE	APPROVAL DATE	CLOSING DATE	LENDING PROJECT COST	IDA CONTRIBUTION	TOTAL AMOUNT	GRANT AMOUNT
Forestry Project (02)	Specific Investment Loan	12-Jul-83	30-Jun-92	0	18	18	0
Community Forestry Project	Specific Investment Loan	22-Apr-80	30-Jun-89	0	17	17	0
Nepal REDD Readiness Preparation Program	Carbon Offset	26-Aug-09	N/A	3,600,000	0	0	0
NP: Forest Sector Governance Assessment	Economic and Sector Work	15-Jun-11	N/A	0	0	0	0
Nepal REDD Readiness Preparation Program	Recipient Executed Activities	26-Aug-09	30-Mar-13	3,200,000	0	0	3.2
TCN Marketing Study - Policy Note	Economic and Sector Work	6-Dec-00	N/A	0	0	0	0
Strengthening Institutional Capacity of the DNPWC for the Effective Management of Mountain Protected Areas	Institutional Development Fund	29-Mar-11	N/A	500,000	0	0	0
Hill Community Forestry Project	IBRD/IDA	30-May-89	30-Jun-99	45,400,000	30.5	30.5	0

Note: DNPWC = Department of National Parks and Wildlife Conservation. REDD = Reducing Emissions from Deforestation and Forest Degradation. IBRD = International Bank for Reconstruction and Development. IDA = International Development Association.
Source: World Bank project database.

One major problem confronting Nepal's forestry sector is misplaced priorities in budgetary allocation and expenditure. About 63 percent of the budget allocated to the forestry sector is spent on salaries and allowances, unlike the municipal and district side of local governments, where most of their budgets are spent on projects. Nepal's forestry sector suffers from resource allocation inefficiency and effectiveness problems rather than lack of funds.

Despite of the importance of forest resources in livelihoods, local development, and economy, deforestation and degradation of forests continues unabated. In addition to the better utilization of forest products, there are institutional and policy-related issues that need to be addressed, in order for the forestry sector to achieve its real potential in income, revenue, and employment generation. One such issue is the frequent transfer of forest officers (see table A.14).

TABLE A.14. FREQUENCY OF CHANGE AND TRANSFER IN MFSC

POSITION		NUMBER OF CHANGES			TOTAL
		1993–2001	2002–05	2006–09	
Minister		8	4	4	16
Secretary		5	3	4	12
Director General		4	3	4	11
DFOs (Terai)	Kailali	9	2	4	15
	Bardiya	7	2	3	12
	Jhapa	8	1	2	11
DFOs (Middle Hills)	Kathmandu	6	2	2	10
	Gorkha	7	3	3	13
	Ilam	8	2	2	12

Source: Kanel et al. 2009.

Frequent transfer of district forest officers takes from decision makers the time they need for trust building and reciprocity, which is key to effective forest management. Between 1993 and 2001, an average of eight transfers were made in the Terai and seven in the Middle Hills. Eight changes in an eight-year period means that, on average, each DFO had approximately one year in his or her respective position to bring about the positive changes in forest management. It is unrealistic to expect these decision makers to deliver in such a short period of time, as understanding stakeholders' relationships; the competence of junior-level staff; and the nature, magnitude, and drivers of deforestation and degradation in the district take time. The gap between policy and implementation adds another layer of problems. For example, even though the government states that it wants to maintain at least 40 percent of the country as forested land, its actions are in direct conflict with this position. It frequently allocates forest areas for other land use such as the resettlement of freed bonded laborers, river-affected households, and campsites for armed forces (Singh et al. 2010).

APPENDIX B: STRENGTHENING ACCOUNTABILITY AND CONTROL IN COMMUNITY FORESTRY IN NEPAL

Nepal is recognized as one of the worldwide leaders in community forestry. Today there are more than 15,000 community forests in Nepal, directly impacting 1.6 million households. Community forests cover 1.1 million hectares, or approximately 30 percent of Nepal's forest area. Recently, there has been concern in the media that some community forests are being overharvested, intentionally or through mismanagement.

SCOPE OF THIS APPENDIX

This appendix provides recommendations to assist Nepal's Department of Forests and the Community Forest Division in developing procedures and processes that will increase transparency and strengthen accountability and control of commercial harvesting operations in community forests and ensure their long-term sustainability in Nepal, particularly in the Terai region. The intent is to provide simple recommendations that can be implemented by Community Forest User Groups (CFUGs), without direct involvement of the Department of Forests. In addition, the recommendations are intended to require relatively low levels of technology, expense, and technical training.

BACKGROUND

Nepal started decentralizing rights and responsibilities for forest management in 1978 with the promulgation of the first community forestry rules, and today is recognized as one of the world leaders in community forestry. Community forestry was recognized as a priority program in the Master Plan for the Forestry Sector, approved in 1989. Today, it is an integral part of land tenure and forest management in Nepal.

There are more than 15,000 community forests in Nepal, directly impacting 1.6 million households. Community forests cover 1.1 million hectares, or approximately 30 percent of Nepal's forest area. Community forests are managed by CFUGs, which are intended to represent all segments of the community and are to include 50 percent women, poor, lower castes, indigenous people, and ethnic groups.

CFUGs, with the assistance of the Department of Forests, are authorized to prepare and implement Community Forest Operating Plans. The Department of Forests has detailed guidelines concerning how to prepare such plans and how to identify the activities to be included, for example, harvesting of timber, firewood, and herbs; regeneration; thinning; and pruning. Community forests are to be used for the benefit of the community, providing firewood, construction timber, and other resources

for use within the community. After meeting community needs, any surplus products may be sold to outside groups.

Recently, there has been concern in the media that some community forests are being overharvested, intentionally or through mismanagement. Therefore, the government of Nepal has temporarily halted harvesting and commercial timber sales in 24 districts where the greatest concerns were raised, primarily the Terai and Inner Terai districts.

In the Middle Hills, where forest blocks are smaller, timber values are lower, and access is worse than in the Terai, it is generally accepted that most of the community forests are being well managed and are providing the communities with acceptable social and economic benefits. Terai's higher timber values, larger blocks of forest, and easier road access provide a greater incentive for unsustainable harvest, capture of the benefits by elite groups, and corruption.

To date, the Department of Forests has given very little technical guidance to CFUGs on how to dispose of their timber. Nor have procedures been established for the general public to monitor the timber harvest in community forests, either on the ground or through recordkeeping and reporting requirements. The Department of Forests has viewed community forests as fairly autonomous and independent organizations. In addition, with more than 15,000 community forests, the resources that the Department of Forests can devote to individual community forests are very limited. This has led to a lack of transparency and greater opportunity for corruption and elite capture of benefits. Recognizing the criticisms of community forest management and the possible deficiencies in forest management, the Department of Forests has collected data to prepare a technical assessment of community forest management. In addition, they have prepared a draft guideline to assist CFUGs in the management of their forests.

TRANSPARENCY IN THE FORESTRY SECTOR

Transparency and accountability in the community forestry sector require adequate institutional control in all aspects of forestry and in government in general. Although annex 1, Guidelines for Contract Preparation and Administration, was prepared for community forests, it should be noted that there is nothing in it that is not equally applicable to government-managed forests. It is just as important, maybe more important, to have well-prepared and well-administered timber sales in government-managed forests as in community forests.

The forests of Nepal are valuable resources that have the potential to provide large benefits to both communities and the national economy. In order to achieve these benefits, both community- and government-managed forests must be managed professionally to maintain their sustainability and to generate revenue for communities and the national treasury.

There should be standardization, systemization, and consistency between the management practices of individual community forests. Community forests are a large part of the forest products sector, but government-managed forests should follow good business management practices, too. The procedures that government-managed forests use should be similar to the procedures of community forests.

If the system of management within community forests and between community forests and government-managed forest is regularized, it will be much easier to monitor and control what is happening to the forest resources. This will increase transparency because deviations from the norm will be much more evident to the government, the public, and other organizations that are concerned about natural resource management in Nepal.

The Department of Forests and outside groups should take a much more active role in approving and reviewing the timber harvest activities of CFUGs. Outside groups should also be encouraged to monitor these activities. Another critical factor is that the Department of Forests should keep track of what is planned for harvest, what is actually harvested, how this compares to the allowable annual harvest, and what revenues were planned and realized. District Forest Offices should collect this information from community forests and government-managed forests, enter it into a spreadsheet, and transmit it to the headquarters of the Department of Forests. Headquarters should summarize this information and share it with the Ministry of Finance, other interested government agencies, and the public. This will allow the Ministry of Finance to account for all of the harvest and revenues that should be coming into the treasury. Figure B.1 reflects the roles and responsibilities that are needed to enhance transparency and governance of timber harvest activities.

Guidelines for Contract Preparation and Administration

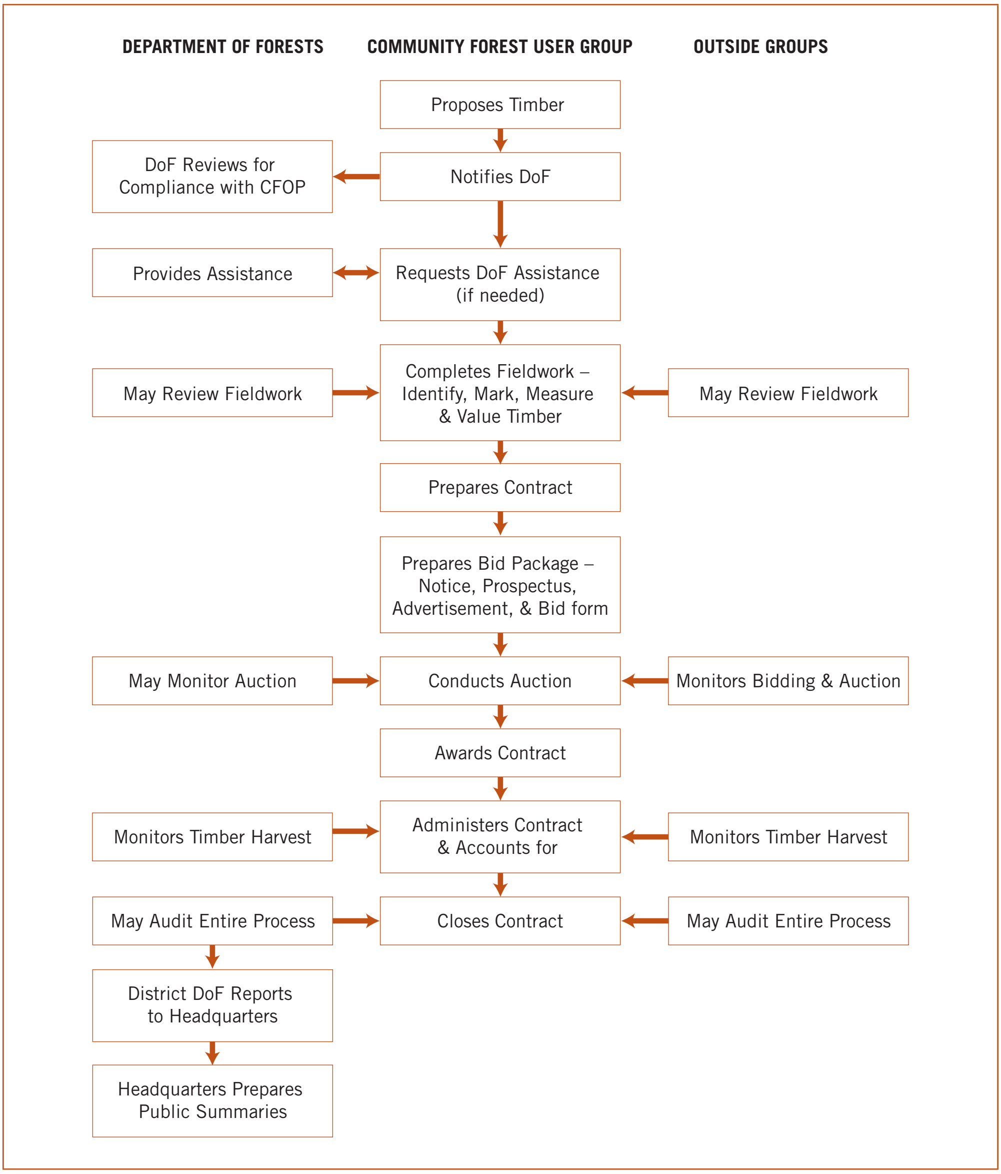
Contracting is a process, whether a verbal contract with a roadside vendor or a written contract for the sale of timber. The roadside vendor identifies what is going to be sold; prepares, prices, and advertises it; executes a verbal contract; and monitors to ensure that all products are paid for. A timber sale contract or a contract to remove timber to a depot is more complex, but the processes that need to be followed are the same as with the roadside vendor. In order to have transparency and get the desired results, all of the procedural steps must be followed. Specifically, to sell timber or to contract for its removal, both community- and government-managed forests must:

1. Base the amount that they harvest on a professionally rigorous allowable annual harvest calculation and a sound inventory.
2. Identify the specific trees to be cut based on a sound silvicultural prescription that improves the condition of the forest.
3. Mark the trees to be harvested in such a way that it is easy to identify if undesignated trees are taken.
4. Measure the trees to develop an accurate volume of timber available for sale.
5. Appraise the timber to determine its fair market value.
6. Use a contract that adequately identifies the timber, minimizes the opportunity for timber theft, ensures payment for the timber, and ensures that natural resources are protected.
7. Advertise the timber in such a manner and with the information necessary so that the maximum number of bids are received.
8. Award the contract to the bidder that has submitted to most advantageous bid.
9. Administer the contract according to its terms and in such a manner that no unauthorized timber is taken and resources are protected.

If any of these steps are skipped, there will be a loss of transparency and it will be more difficult to get the desired results. Annex 1, Guidelines for Contract Preparation and Administration, was

prepared to identify the minimum procedural steps and technical details necessary to maintain transparency and produce a desired outcome.

FIGURE B1: ROLE AND RESPONSIBILITY ENHANCEMENTS FOR IMPROVING GOVERNANCE IN THE ADMINISTRATION AND SALE OF TIMBER



Increasing Transparency for Community Forestry in Nepal

The objective of community forestry is to provide benefits to all the people in the community, regardless of social status or income. The more widely the benefits are distributed to all groups within the community, the more interest there will be within the community in how the forests are managed. With more interest, people will pay more attention to what happens in the community forest and there will be more transparency. Everyone in the community will monitor the activities in the forest.

One way to increase the number of people interested in community forestry and to ensure that the benefits of the community forest are as widely distributed as possible is to promote micro-enterprises and small enterprises. Members of the community could use the forest resources to make various products. These enterprises could range from gathering herbs or honey, to making plows, to small furniture operations, to carving craft items. Some community forests are already using some of their forest resources in this way.

The more members of the community depend on the forest, the more transparency will be enhanced. One opportunity for nongovernmental organizations to help would be to provide microfinancing to get small businesses established.

Recommendations

The forestry sector needs to start practicing the principles of good governance. This would increase transparency and minimize opportunities for corruption and fraud. Specifically, the forestry sector, and in particular community forests, should:

1. Standardize the procedures used to identify, prepare, advertise, award, and administer the sale of timber. It is good business practice to use sound, transparent procedures.
2. Guidelines similar to annex 1 should be developed. This standardization will facilitate good management and allow the opportunity for meaningful reviews and audits.
3. The Department of Forests and outside stakeholder groups should take a more active role in monitoring the harvest activities of CFUGs.
4. There should be a system for reporting plans and accomplishments to the District Forest Offices so that they can summarize this information and report it to the headquarters of the Department of Forests. Headquarters should report it to other ministries and to the general public.
5. The Community Forest Division should conduct periodic field reviews and audits, similar to their current Technical Assessment of Community Forest Management, of the activities of community forests. These audits should include outside stakeholder groups as participants.
6. In order to move to a more automated system, it may be necessary to support District Forest Offices and the headquarters of the Department of Forests with financing for computers, peripheral equipment, software, and supplies.
7. The Community Forest Division should promote the idea of establishing micro-enterprises and small enterprises based on using wood from community forests.

TECHNICAL ASSESSMENT OF COMMUNITY FOREST MANAGEMENT

In January and February 2011, the first phase of the Technical Assessment of Community Forest Management collected and analyzed data from individual community forests. The second phase will group data from these individual community forests to provide a broad perspective of how the community forests are being managed.

Within the Terai there are thousands of individual community forests; data were collected from 27 community forests. The Terai was divided into five regions: Eastern, Central, Western, Mid-Western, and Far-Western, with the objective of visiting at least two community forests in each region. Individual community forests were chosen for the sample if they had relatively high levels of growing stock, sold relatively large amounts of timber to outsiders, and, to facilitate sampling, had a small geographic area and easy access. The sampling team received two days of training and consisted of two forest officers and two forest rangers.

The survey attempted to assess four specific areas:

1. **Identification:** (a) Does the correct village have the management responsibility for the community forest and (b) was the right forest patch selected for management? The Guidelines for the Community Forestry Development Programme (CFD 2009) state that the community should be traditional users of the forest, live in close proximity to the forest, and have the ability to contribute to the protection and management of the forest. In addition, the community forest should be the forest in closest proximity to the village.
2. **Survey:** Have the methods in the Community Forest Inventory Guidelines (CFD 2004) been followed?
3. **Inventory:** Have the sampling process, stratification, and the application of the correct measuring technique been applied in accordance with the Community Forest Inventory Guidelines?
4. **Management:** Has the Community Forest Operating Plan been prepared based on the forest inventory data and the directives of the Department of Forests, and has management been implemented in accordance with the Community Forest Operating Plan?

The results from phase one indicate that some community forests are performing well, while others are not. The issues ranged from overharvesting to elite capture of the benefits. In general, it can be said that the more volume community forests sold to outside groups, the more significant were the problems identified.

The Community Forest Division needs to complete the analysis of this study and attempt to isolate the underlying reasons for the problems identified.

SUSTAINABILITY OF HARVEST

Sustainable harvest requires knowledge of what resources are available, knowledge of what the resources are capable of producing over time, and assurances that the timber harvest is planned and

conducted in accordance with resource capabilities. In order to ensure the sustainability of timber harvesting, the following sound business practices must be followed and completed:

1. The forest inventory must be accurate, specifically:
    a. The area of the forest must be determined accurately,
    b. There must be an adequate number of plots to determine the volume within reasonable limits of sampling error,
    c. The field data must be collected with accuracy, and
    d. The data must be analyzed and processed correctly.
2. The allowable annual harvest must be calculated accurately, in accordance with the inventory data.
3. The Community Forest Operating Plan must be followed.
4. The trees to be harvested must be identified. Identification must be consistent with good silvicultural practice.
5. Harvest volumes must be measured accurately.
6. The harvest must be monitored to ensure that only the trees identified for cutting are harvested.

These are the basic steps to control timber harvesting, to provide accountability, and to provide transparency. If these steps are taken, barring a natural catastrophe, the harvesting will be sustainable. If records are kept accurately and made available for review, the harvesting will be transparent and accountability will be ensured.

FOREST INVENTORY GUIDELINES

The Community Forest Inventory Guidelines are used to develop the Community Forest Operating Plan. The prime objective of the inventory is to ensure that sustainable forest management is achieved. These guidelines intend to ensure that the growing stock is calculated correctly and accurately, so that the allowable annual harvest can be calculated.

The guidelines have been criticized as too complex and too technical. There are many opportunities to simplify the guidelines. However, this review is intended to only identify deficiencies in the guidelines that may adversely affect the estimation of growing stock and calculation of the allowable annual harvest.

Calculation of forest area is important. The guidelines recommend stratification of the forest, which means that the area of each stratification must also be calculated. The area calculation method is a dot grid. This procedure is perfectly acceptable but its accuracy is dependent upon how accurately the forest and volume sampling stratifications can be mapped. Many of the CFUGs surveyed their forests and calculated their forest areas using GPS devices. When the survey was done with GPS, the forest area was accurately determined.

The greatest improvements in volume estimation can be made by increasing the sampling intensity. For forested areas, the guidelines recommend a sampling intensity of 0.5 percent of the forest area as the minimum level.

The inventory and the allowable annual harvest are based on timber volume. The fuelwood produced is a byproduct of timber production. A better estimate of the available timber volume could be developed if local volume tables were used or if length of the merchantable bole and its top diameter were measured. The current practice is to use a form factor of 0.5 to account for bole taper and for fuelwood volumes above the merchantable bole.

The guidelines call for an allowable annual harvest quantity equal to the annual increment, with very minor exceptions. This is an exceptionally conservative calculation of allowable annual harvest. The Hanzlik formula, which itself is relatively conservative, would increase the allowable annual harvest by an amount equal to the volume of mature timber divided by the rotation age. Thus, if the forest has no mature timber, the allowable annual harvest would be only the annual increment, as is now the case. If all of the timber is mature and there was essentially no annual increment, then the Hanzlik formula liquidates the overmature trees over the average rotation age and replaces these trees with thrifty young trees. Hennes, Irving, and Navon (1971) provide a good summary of simple allowable annual harvest calculation alternatives.

Recommendations

The Community Forest Inventory Guidelines are technically sound. However, several recommendations will facilitate the accurate calculation of volume and a suitable allowable annual harvest:

1. The area of the community forest and the area of the volume measurement stratifications and forest blocks should be surveyed and calculated using a GPS device.
2. The intensity of the sample should be increased for the sawtimber and possibly for the pole timber. This can be accomplished without increasing the workload dramatically, by taking additional plots that measure only the larger trees. For example, assuming a desired 10 percent sampling error and a 40 percent coefficient of variation, the sample size would need to be approximately 80 plots.
3. Local volume tables should be developed for the inventory or the height, and top diameter of the merchantable bole should be used for volume calculation.
4. The allowable annual harvest calculation is very conservative. A formula that liquidates some of the growing stock over the rotation age is more technically sound and would allow more harvest to take place and still provide for the sustainability of the forest.

COMMUNITY FORESTRY GUIDELINES

If the Community Forestry Inventory Guidelines Program are followed, the activities of the CFUG will be transparent, at least within the group and with the Department of Forests. The following procedures provide accountability and separation of duties:

1. Expenditures from the CFUG fund must be approved with at least two signatures from among the chairman, secretary, and treasurer; and it is mandatory that at least one of the signatories be a woman.
2. There must be a public audit of income and expenditures at least annually and made available to the community and the Department of Forests.

3. The audit of income and expenditures must be must be done by a registered auditor if annual income exceeds Nr 25,000. (Consideration should be given to increasing this amount to Nr 100,000, or approximately US$1,400.)
4. There must be community and interest group meetings to discuss the resource analysis.
5. A copy of the approved Community Forest Operating Plan must be available for review by CFUG members.
6. A public hearing must be conducted once a year to inform the community about programs, income, expenditures, sales, and distribution of forest products.
7. Information about programs, income, expenditures, sales, distribution of forest products, and decisions must be posted in a public place.
8. The decision-making process must include representatives from all segments of the community.
9. A subcommittee should be formed to monitor all programs.
10. The CFUG must self-monitor and keep records of its achievements, implementation process, and lessons learned from implementation of its Community Forest Operating Plan.

Overall, the operations of the CFUGs should be very transparent. However, the Department of Forests has limited resources to monitor their activities, and the members of the community have limited capacity to ensure that the CFUGs follow these accountability procedures. The simplest way to increase and ensure community knowledge and accountability of the CFUGs is to make sure that the required public posting about activities is actually done. There should also be a requirement to ensure that the information collected is available to outside parties and that outside parties have a right to monitor timber harvest on the ground.

COMMUNITY FOREST HARVEST OPERATIONS

Approaches to Timber Harvesting

Generally, community forests will conduct their own separate timber harvest programs. But there are more than 15,000 community forests. Many of these are very small and have very limited capacity and resources. One alternative to assist these small community forests would be for neighboring community forests to join together in a cooperative. The activities of the cooperative could be decided among the community forests, but could include such things as sharing technical expertise and/or labor or combining their timber harvest activities into a single contract to make it more attractive to potential timber harvesters.

Depot Approach to Contracting Timber Harvesting

The depot approach to contracting for timber harvesting requires two contracts. However, both contracts are very simple. The first is a service contract, which procures the services of a logger to cut the marked trees and remove them to a sorting yard or depot. This contract does require some resource protection provisions. The second contract is a sales contract. The logs that the community desires to sell, after community needs are met, are identified at the depot. The purchaser pays for and removes the logs. Ownership of the logs transfers when the logs are paid for and removed.

Three community forests were visited: Simpani-Devkote, Chatnauta, and Jyoti, all in the Makwanpur District. Table B.1 summarizes the basic information about these community forests.

TABLE B.1. SUMMARY OF THE COMMUNITY FORESTS VISITED

COMMUNITY FOREST	SIMPANI-DEVKOTE	CHATNAUTA	JYOTI
Area	340 ha	329 ha	295 ha
Households	458	230	386
Allowable Annual Harvest (AAH)	n/a	4000 cf	2200 cf
Amount Cut	< AAH	2000 cf	2200 cf
Household Demand	> Harvest Amount	6000 cf	5000 cf

Note: ha = hectares. cf = cubic feet.

Each of these community forests operated in essentially the same manner:

1. The Community Forest User Group Committee surveys the annual needs for each household and plans their harvest to meet these needs, up to the allowable annual harvest. The survey may be based on needs for a specific purpose or a proportionate share for each community member.
2. The Community Forest User Group Committee, together with the Department of Forests forest ranger, identifies and marks the trees to be cut, emphasizing the removal of dead, dying, diseased, down, and deformed trees (5 Ds).
3. The Community Forest User Group Committee advertises within the community for someone willing to harvest the marked trees. Generally, one of the poorer community members responds to this advertisement and is selected to harvest the timber. If no community member responds, the committee advertises outside of the community.
4. The harvester/logger harvests the trees and transports them to a depot. The community can easily monitor the harvest because the logs are numbered to correspond to the numbers on the stump.
5. Community members visit the depot and purchase their allocation of timber. The purchase price is only enough to recover the costs of harvesting.
6. Invariably, there is a small amount of leftover timber either because community members' plans change; because some of the timber is too large, defective, or in some other way unsuitable for the intended use; or because users do not want to pay the transfer price.
7. The leftover timber is sold to outsiders. The timber is advertised for 21 days at a certain minimum price, approximately Nr 500 per cubic foot. This is about Nr 17,650 per cubic meter. (Note: this minimum price appears to be relatively low depending on species and grade and transportation costs to a sawmill.)
8. Regulations require the community to issue a transport permit, so the government can monitor movement of timber within the country.

These three community forests are doing a very good job of providing for their community needs first, harvesting the least desirable trees within their allowable annual harvest and selling any surplus timber to outside parties. One unique thing about these three communities is that community

demand exceeds the allowable annual harvest, leaving very little timber available to sell to outside parties. Even if allowable annual harvest far exceeded community demand, the processes used by these three communities would work very well. There are a number of advantages to their process, compared with more traditional timber sale processes:

1. Community needs are met first.
2. There is no need for a separate process to meet the needs of the community.
3. The process provides an opportunity for someone in the community to participate in the harvest and earn additional income.
4. The harvester/logger has no incentive to cut unmarked trees.
5. Volume is easy to measure. In the forest, the accuracy needs to be sufficient only to ensure compliance with the Community Forest Operating Plan. At the depot, the logs need to be accurately measured for sale, but this is relatively easy.
6. It is easy to estimate the fair market value because the fair market value is simply the log price at the sawmill, minus transportation costs.
7. The process simplifies accountability and control of the timber sale process. There is very little documentation and recordkeeping needed.
8. Supervision of the timber harvest is minimized and contract provisions are simple.
9. The process is very simple and nontechnical. Even the advertisement and selling of the surplus timber is simple because the timber has already been harvested.

Traditional Approach to Contracting Timber Harvest

In some situations, a more traditional approach to selling timber may work better. With this approach, a contractor or logger is selected that will harvest the timber being sold and transport it to a processing facility. The logger pays the community for the timber, and the processing facility purchases it from the logger.

There are several possible procedures with the traditional approach, but it is highly recommended that lump-sum sales should be the only form of sale in Nepal from community forests. With lump-sum sales, the price paid is based on the volume of timber measured before harvest. Ownership of the timber transfers when it is paid for and removed.

The advantages of lump-sum sales, compared with sales where measurement is after harvest (scaled sales), are:

- There is less opportunity to defraud the seller with inaccurate measurements.
- The amount of supervision required by the seller is less.
- Because the timber is already paid for, it gives an incentive to maximize utilization and improve harvesting practices.
- It is unnecessary to monitor log transportation to the location where the logs are measured, usually a sawmill.

The advantages of the traditional approach to sales, compared with the depot approach, are:

- There is little need to monitor to ensure that all the trees are removed.
- There is only one contract.

Preparing Timber for Harvest

With either the depot approach or the traditional approach to timber harvest, similar procedures must be followed. With either process, (a) the trees to harvest must be selected and marked for harvest; (b) the volume of the trees must be measured; (c) the value of the trees or logs must be determined; (d) a contract, prospectus, and advertisement must be prepared; and (e) the sale must be advertised and the high bidder selected.

Identifying and Marking the Timber to Harvest

Consideration must be given to the silvicultural prescription and the requirements of the Community Forest Operating Plan. The Community Forest Operating Plan establishes a maximum allowable annual harvest. If this volume is exceeded, subsequent annual harvests should be reduced by a similar amount. The Community Forest Operating Plans emphasize the removal of dead, dying, diseased, down, and deformed trees; beyond that, it is essential to implement a silvicultural prescription that improves the condition of the forest and ensures regeneration.

The trees to be harvested must be marked in a manner that facilitates the monitoring of harvest during contract administration, to ensure that residual trees are protected and not harvested. If the timber harvest is a selective cut with cut trees marked, each tree to be harvested must be marked with a tree number on the stump and on the bole. If the timber harvest is a clearcut, the boundary may be marked. With boundary marking, there should be a mark on the boundary stump at ground level and another mark at about chest height facing the interior of the area to be harvested. The boundary trees must be leave trees. Marking of leave trees is common in Nepal, but is not recommended because it is more work and because there is a loss of accountability between the cruised trees and the trees and logs that are harvested. If this is done, then, in addition to marking the leave trees, the contract boundary must be marked in a manner similar to a clearcut boundary and the logger must number the stumps of the trees that are cut.

With the depot approach, there is no incentive for the logger to cut unmarked timber. Doing so would only mean additional work for no additional pay. With the traditional lump-sum approach, any unmarked trees that are harvested without detection are taken without any payment to the community. Therefore, a method of marking that is difficult to counterfeit is necessary. The easiest way to ensure integrity in the marking is to prepare a branding hammer that can be used to stamp each stump mark of the trees to be harvested.

Measuring the Volume to Harvest

The precision of volume measurement in the forest may be less with the depot approach than with lump-sum sales. The purpose of the volume estimate is to assist the logging contractor in estimating costs for bidding and to monitor compliance with maximum allowable annual harvest requirements. However, the volume and species of the surplus logs, after meeting community needs, must be measured accurately, because the sale of logs from the depot is essentially a lump-sum sale.

Lump-sum sales under the traditional approach require a relatively precise measurement of the volume sold, to ensure that the buyer does not pay too much or too little. If more volume is harvested than anticipated, the buyer stands to benefit, and vice-versa. A detailed estimate of timber quantity, quality, and species is necessary, because this estimate is used to determine the amount of payment. The cubic volume should be estimated based on the length of the merchantable bole and the diameters at each end. Most timber sales are of relatively small volume, so it is recommended that every tree be measured. If this is not feasible, then a random sampling method should be used.

Detailed tally sheets of the tree number, species, and volume must be maintained. These tally sheets will be useful later during contract administration or if there is ever a need to audit the timber sale volume or processes.

Determining Fair Market Value

The timber should be advertised with a minimum price based on a reasonable assessment of the fair market value. The advertised minimum price should be slightly, perhaps 20 percent, less than the fair market value estimate. The purpose of this is to attract multiple bidders and to ensure that at least one bidder is willing to bid if the fair market value estimate is too high.

In the case of the depot approach, where harvested logs are being sold, the only difference between the fair market value of logs at the sawmill and fair market value of logs at the community forest depot is the cost of loading and transport. It is recommended that the Department of Forests survey sawmill log prices and estimate transportation costs periodically, to assist community forests in setting the minimum bid price. The means of disseminating this information must be considered, but one viable alternative would be to broadcast periodic messages to selected cell phone numbers.

With lump-sum sales, the Department of Forests should also assist communities in estimating fair market value. In addition to sawmill log prices and transportation costs, they will need to estimate logging costs to develop this estimate.

Preparing the Sale Contract

A written contract is necessary to document every timber sale transaction. As a minimum, the contract must identify: what timber is to be sold, where it is located, who the buyers and sellers are, what the price and terms of payment are, and any other contract requirements. A written contract is also necessary to identify the work required and resource protection requirements for the service contractor that harvests timber.

Two contracts are needed with the depot approach: one contract to harvest the trees and move the logs to the depot and one contract for the sale of logs. The traditional approach combines these two processes into one contract.

Annex 1 contains proposed guidelines for preparing, selling, and administering timber contracts. It includes templates for both the depot and traditional approaches to selling timber. Every effort was made to make these contract templates as simple as possible, while still providing protection for the community forest and fiscal integrity.

Preparing the Prospectus and Advertisement

A prospectus should be prepared for all contracts. The prospectus enables potential bidders to decide whether they should investigate the contract further. The prospectus attracts interest in a timber offering, directs attention to required procedures, and furnishes information beyond that contained in the advertisement.

All contracts should be advertised. Advertisements should be clear and concise, and include only essential elements. Additional information should be included in the prospectus. The purpose of advertising is to:

1. Attract bids from as many bidders as possible.
2. Give timber operators in the locality equal opportunity to examine the offered timber and to bid on it.
3. Prevent any possibility of favoritism in the disposal of community timber.
4. Inform interested citizens, other than timber operators, of the sale offering.

Annex 1 includes templates for prospectuses and advertisements.

Selling the Contract

Advertisement

Advertisements for contracts should be published in newspapers that are likely to be read by prospective bidders. Generally, contracts should be advertised for 30 days, but if there is assurance that all possible interested bidders will be informed, it could be shorter; for example, if a harvest contract is advertised within a village. The prospectus and advertisement should be widely distributed. The intent is to attract bids from as many bidders as possible. In this way the highest price, or lowest price for service contracts, can be achieved.

Solicit and maintain a prospective bidders list, which makes it possible to inform prospective bidders, by mail, email, or a broadcast to selected cell phones, that a contract is being offered and that a complete bid package is available upon request. The prospective bidder letter or notice provides only a minimum amount of information to the prospective bidder, who must then request the prospectus and other information.

The bid package given or sent to prospective bidders should include the advertisement, prospectus, bid form, and contract area map. Allow prospective bidders to inspect the contract and other documentation at the office listed in the advertisement and prospectus. Ensure that each prospective bidder receives the same information.

Selection of the High Bidder

An open and transparent bidding process is essential. The people in the community and the bidders must be confident that bidding, review of bids, and selection of the best bid is unbiased and fair.

A bid custodian should be selected and given responsibility for receipt and custody of sealed bids. The bid custodian should keep secure the bids received and not divulge to anyone any information concerning who bid, the number of bids received, or whether any bids have been received.

A contract officer should also be selected and given responsibility for the bidding and contract awarding process. At the time of the bid opening, the bid custodian should deliver the bids received to the contract officer, who can then open the bids and disclose them to the people present. Any bidder and any member of the public should be allowed to attend and observe the bid opening. At a minimum, there should be the contract officer, bid custodian, and at least one independent witness who is not one of the bidders present.

The contract officer should review each bid for completeness. For complete bids, the contract officer should read the bid and post the amount for those in attendance to observe. The contract officer may then tentatively award the contract to the bidder whose bid is most advantageous for the community. This would be the high bid for sale contracts and the low bid for service contracts. The submitted bids should be retained as part of the contract file and be made available for review by any interested party.

Before contract award, a determination of bidder responsibility should be made. To determine a bidder to be responsible, it should be found that:

1. The bidder has adequate financial resources to perform the contract, or the ability to obtain them;
2. The bidder is able to perform the contract within the contract term, taking into consideration all existing contracts;
3. The bidder has a satisfactory performance record on contracts;
4. The bidder has a satisfactory record of integrity and business ethics;
5. The bidder has or is able to obtain equipment and supplies suitable for logging the timber and for meeting the resource protection provisions of the contract; and
6. The bidder is otherwise qualified and eligible to receive an award under applicable policies, laws, and regulations.

The contract officer or other individual that the community selects should sign the contract and make the final award after the successful bidder has been determined to be responsible and has signed and returned the contract and provided a performance bond, if required. The removal of any trees or logs must not start until they have been paid for.

Identifying and Reporting Noncompetitive Bidding

Noncompetitive bidding destroys the integrity of the bidding process. It is unfair to honest bidders and unfair to the CFUG, which would have gotten a better price or gotten the required work done at less cost had the bidding been competitive. It is an indicator of corruption and lack of transparency. Community Forest User Group Committee members should be alert for instances of noncompetitive bidding or possible collusive behavior. If such behavior is observed, it should be reported to the full committee. If the observed behavior is validated as disruptive to the competitive bidding process, the committee should take appropriate action. Such action may include rejecting the bidder's bid and/or disallowing bids from the bidder(s) for a period of time.

Committee members should listen for casual comments and exchanges made by potential bidders before, during, and after bidding that may indicate prior contracts or understandings among the participants. Also watch for unusual behavior or positions that occur without any apparent reason. The following directly observed situations warrant reporting:

1. Any bidder conduct or statement suggesting collusive behavior
2. Any threats or warnings to potential competitors intended to limit their bidding
3. Any allegations by credible bidders or third parties about collusive bidding
4. Any admissions of participation in collusive bidding
5. Multiple bid submissions in the same handwriting or type, or multiple bids by a single bidder
6. Different bidders winning consecutive sale offerings and who make token or suppressed bids on other offerings
7. Any deviation in normal bid patterns that cannot be explained
8. A bidder appearing in person to present the bid and also submitting the bid of a competitor
9. Competitors submitting identical bids or frequently submitting revised bids at about the same time that appear similar
10. Competitors regularly socializing, appearing to hold meetings, or otherwise getting together shortly before submitting bids
11. Competitors exchanging any form of price information, such as volume calculations, among themselves
12. A bidder withdrawing its bid just before bid opening

Contract Administration

During harvest, the operations must be frequently monitored to ensure that only the marked trees are harvested and to ensure that unnecessary environmental damage does not occur. Areas being harvested must be monitored for contract compliance and records must be kept. A well-executed and well-documented process for contract administration will enhance public trust of timber sale activities. The essential elements of a robust contract administration system include:

1. There must be regular, preferably unscheduled, monitoring of harvest activities.
2. Contract administrators must be familiar with the contract.
3. Contract administrators must be knowledgeable about what timber was sold, so that they can identify any differences from what was intended.
4. Payment for timber must be received before removal.
5. There should be frequent discussions with the contractor before and during operations to ensure that the contractor knows what is in the contract and what is intended.
6. There should be a system to identify unusual situations, or "red flags," that may require additional investigation.
7. There should be a secure method to ensure that additional trees are not marked. The paint used to number logs must be a different color than that used to mark the cut trees.
8. There must be credible actions to correct any deficiencies.

9. There must be documentation of what was inspected and when, including an inspection when harvest is complete.
10. In addition to a designated inspector, any member of the community or the public should be allowed to inspect operations.
11. There must be a process for the contract administrator to report problems to the Community Forest User Group Committee.

With the depot approach to contracting, the principal issues in contract administration are likely to be related to resource protection or the timely accomplishment of operations. There is very little incentive to cut additional timber in the forest. When logs are sold from the depot, there will be an incentive to take additional logs. However, in most cases, all of the logs in the depot will have been sold. If there are logs being retained by the village, they can be "painted down" by running a paint strip across them and onto the ground. The operations at the depot will generally be readily apparent to all village members, which will also assist in contract administration.

With lump-sum sales, the principal contract administration required is to ensure that only designated trees are cut, that the buyer follows any resource protection requirements, and that operations are completed in a timely manner. There is high incentive for the logger to take unmarked trees, because any undesignated trees can be harvested without any payment.

Identifying Potential Problems

There must be a system to identify potential problems. Issues identified may or may not be problems, but they are all a warning and warrant further investigation. Such identifiers are sometimes called "red flags." Some of these indicators can be monitored by the contract administrator, and others may be more useful to the Community Forest User Group Committee or the Department of Forests. Some problem indicators or red flags are identified in the previous section, "Identifying and Reporting Noncompetitive Bidding." The use of lump-sum timber sales, whether with the traditional approach or the depot approach, eliminates many of the volume accountability and transportation issues that would occur with scaled timber sales.

Magrath et al. (2007) provides a good discussion on warning indicators, and table B.2 lists some of the red flags identified in this study that apply to lump-sum sales, as well as other red flags that may be useful.

TABLE B.2. RED FLAGS TO ASSIST CONTRACT ADMINISTRATORS AND THE COMMUNITY FOREST USER GROUP COMMITTEE IN MONITORING HARVEST

CONTRACT ADMINISTRATORS	APPLICABLE TO:
Log volumes for trees do not match cruise volume. This could be an inaccurate cruise or additional logs from an undesignated tree.	Traditional
Number or length of logs does not match the length of cruised tree bole. Too many logs may indicate that trees are being harvested elsewhere and mixed with the authorized harvest.	Traditional
Tree/stump and log numbers do not match. The logs may be coming from another unauthorized location.	Traditional
Excessive damage to residual trees or "accidental" cutting of residual trees. This may be an attempt to get additional trees added at a favorable price.	Traditional

(continued)

CONTRACT ADMINISTRATORS *(continued)*	APPLICABLE TO:
Fresh paint on vegetation may indicate additional marking. The logger may be marking additional trees.	Traditional
The ground is disturbed beyond the area of approved harvest. The logger may be skidding additional trees in from beyond the approved harvest area.	Traditional
Harvesting species that did not show up in the cruise. These trees may have been missed or misidentified in the cruise or be from outside of the approved harvest area.	Traditional
Service contractor has excessive timber breakage. The logger may be intentionally breaking timber to avoid having to remove it.	Depot
Service contractor removing logs from the depot. The logger may be stealing logs.	Depot
Harvesting firewood during the sawlog harvest. The logger may be cutting sawlogs that belong to the community into firewood for sale.	Depot
The logger has not paid for the timber being removed. In this case, the community is giving the logger credit and may never get paid.	Both
Contractors working unusual hours, late at night, or early morning. The logger may not expect contract inspections at these times.	Both
The logger does not have the contract or cannot read it. All parties must know and understand the contract.	Both
Noncompliance with procedures or the contract. This indicates a lack of respect for contract compliance or lack of knowledge of contract requirements; and, as a minimum, leads to poor on-the-ground results.	Both
The logger accompanies the contract inspector during inspections. The logger may try to lead the inspector away from problem areas.	Both
The logger is overly friendly or cooperative. This may indicate a desire to convince the inspector that everything is going well.	Both
Operations are occurring, but there is no one with authority to take corrective contract action. The logger must have someone who can take immediate action on problems.	Both
CONTRACT ADMINISTRATORS AND COMMUNITY FOREST USER GROUP COMMITTEE	
There are inconsistencies in data. These should be explained. At a minimum, the value of the contract should be audited to ensure that it is consistent with what was received or paid.	Both
Third-party complaints about the contractor may have validity and should be investigated.	Both
The logger participated in selecting or measuring the timber. This may be the case if the logger is from the community. A logger may have tried to underestimate the volume, or a service contractor may have tried to overestimate the volume in anticipation of getting the contract.	Both
COMMUNITY FOREST USER GROUP COMMITTEE	
The contract inspector has not visited the contract for several days. This encourages the logger to take shortcuts or to believe that they can steal timber.	Both
The contract inspector is related to the logger. Family ties may be stronger than the desire to do a good job of inspection.	Both
The contract inspector does not document inspections. This leads to a problem in documenting a logger's performance issues.	Both
The contract inspector has unusually high income or available money. The logger may be bribing the contract inspector.	Both
DEPARTMENT OF FORESTS	
The community harvest is higher than allowed in the operating plan. Department of Forests guidelines and advice may have been ignored.	Both
The community's required annual audit is not submitted on time or shows discrepancies. These must be investigated.	Both

(continued)

Remedies for Problems

The contract must include procedures to address problems that occur during operation of the contract. These problems and the corrective actions need to be documented in the contract administrator's records.

There must be a procedure to add or subtract volume. Trees may be damaged during harvest or accidentally cut. In unusual situations, volume may be added to the contract. Procedures are also needed to correct any resource damage that is the direct result of the contractor's poor performance.

The contract should allow for contract cancellation for repeated noncompliance. Cancellation of the contract should rarely occur. The recommended procedure would be a series of warnings: (a) a verbal warning if the problem is minor; (b) a written warning if the problem is major or it is a second similar noncompliance; (c) suspension of operations until agreement can be reached on how to prevent the problem from repeating itself; and (d) cancellation of the contract for very serious problems, like timber theft, or continual and repeated noncompliance. The contractor should have a right to appeal contract cancellation to the District Forest Officer of the Department of Forests.

A registry of operators that have persistent issues with noncompliance with contract terms should be maintained. The Department of Forests or the Federation of Community Forestry Users could help with maintaining this list. The list would be used to assist in determining if an individual was a responsible bidder prior to contract award.

Accounting

An accurate accounting of payments and receipts must be maintained and audited. This should be done under the procedures for the Guidelines for Community Forestry Development Programme. These procedures provide a separation of duties and an audit. They include:

1. Expenditures from the CFUG fund must be approved with at least two signatures from among the chairman, secretary, and treasurer, and it is mandatory that at least one signatory be a woman.
2. There must be a public audit of income and expenditures at least annually and made available to the community and the Department of Forests.
3. The audit of income and expenditures must be done by a registered auditor if annual income exceeds Nr 25,000. (Consideration should be given to increasing this amount to Nr 100,000, or approximately US$1,400.)

It is essential with the traditional approach, or with the sale of logs under the depot approach, that payment must be received or a payment bond furnished before harvesting or log removal occurs.

With the depot approach, the logger may need periodic payments in order to have the money to complete harvest. If this is the case, periodic payments for accomplishment can be agreed upon between the contract inspector and the Community Forest User Group Committee treasurer, based on the percentage of the volume that has been harvested.

IMPROVING INTERNAL CONTROLS

Expanding transparency by standardizing the processes, improving information sharing, involving the public, and increasing the number and quality of audits and reviews are all important aspects of improving governance in the forest products sector and in particular in community forestry. However, changes in the management tone of the organizations involved are also necessary. This is evidenced by, for example, the recent recommendation to take action against former Forest and Soil Conservation Minister Deepak Bohara and more than 100 other ministry and CFUG officials for corruption and deforestation (*The Himalayan*, February 24, 2011).

The Department of Forests and the CFUGs need to develop programs and provide training aimed at improving organizational core values, ethics, and integrity. A clear and consistent message from top management is necessary, about the importance to current and future generations of sound, professional management of forest resources.

Organizational structure should be examined with the objective of improving control systems for delegation of authority, compliance with policies and procedures, management and development of people, and minimizing conflicts of interest. In addition, business practices, such as approvals, authorizations, verifications, reconciliations, reviews of operating performance, security of assets, and segregation of duties, should be reviewed and revised as necessary.

There should be established procedures to report suspected fraud and corruption. Both Department of Forests employees and the public should be able to report malfeasance to an outside monitoring agency, such as the National Vigilance Centre. It should be made clear that there will be sanctions for those involved with fraudulent or corrupt practices.

As stated elsewhere in this report:

1. Information concerning timber harvesting by CFUGs must be submitted to national headquarters and compiled on a regional and national basis and in a manner that the public and other ministries can understand what activities are taking place; and
2. Periodic activity reviews and audits need to be conducted with the active participation of public stakeholder groups. Action must be taken to correct any deficiencies found in these reviews.

NEXT STEPS IN PROCESS REFORM, CAPACITY BUILDING, AND PROCUREMENT

Many international agencies and nongovernmental organizations have an interest in forest management in Nepal and in community forestry in Nepal. These groups have technical expertise and financial resources that could be used to strengthen government forest management and community forest management. Strengthening forest management will increase transparency and accountability and reduce opportunities for corruption and elite capture of benefits. Specific opportunities where investments in capacity building would be helpful include the following:

1. Guideline development and revision, including translation, along with a requirement for compliance with the guidelines, specifically:

a. Community Forest Inventory Guidelines with emphasis on simplification

b. Guidelines for the development of Community Forest Operating Plans

c. Community Forestry Development Guidelines, with emphasis on strengthening transparency, accountability, recordkeeping, and reporting requirements

d. Guidelines for Contract Preparation and Administration, either annex 1 or the draft guidelines that the Community Forest Division has developed, or some combination. Annex 1, for example, would benefit from more detail related to the on-the-ground aspect of contract preparation and more detail about contract administration.

e. Accounting guidelines for receipts and expenditures, including recordkeeping and reporting

2. Development of curricula and a training program for Department of Forests staff, CFUGs, and potential timber contractors. This training should include modules on Department of Forests core values.
3. Financial support to increase capacity with field and office equipment, including computers, peripheral computer equipment, software, GPS devices, relascopes, and other field equipment.
4. Assistance with the development of micro-enterprises and small enterprises that are based on the use of wood and other products from community forests. Micro-financing may be needed to get these small businesses started. This should include an assessment of governmental and bureaucratic barriers to the establishment of small forest-based businesses.

The above suggestions apply directly to community forestry, but are applicable to government-managed forests as well.

The development of guidelines is largely complete and should be considered for immediate implementation. The development of training modules has to wait until the ministry approves the new and revised guidelines. The purchase of new field and office equipment should wait until an assessment of the specific needs is made. Assistance with micro-enterprise development should be an ongoing project.

ANNEX 1: GUIDELINES FOR CONTRACT PREPARATION AND ADMINISTRATION

These guidelines were prepared to identify the minimum procedural steps and technical details necessary to maintain transparency and produce a desired result. If any of these procedural steps are skipped, there will be a loss of transparency and it will be more difficult to get the desired results.

IDENTIFYING, MARKING, AND MEASURING THE TIMBER TO HARVEST

Identifying the Timber

Consideration must be given to the silvicultural prescription and the requirements of the Community Forest Operating Plan. The Community Forest Operating Plan identifies the appropriate silvicultural prescriptions and the type of timber to be given priority for harvest: dead, dying, diseased, down, and deformed trees (5 Ds). It is important to ensure that the silvicultural prescriptions used are appropriate to guarantee regeneration and to improve the condition of the forest.

The amount of timber available for sale is based on the allowable annual harvest in the Community Forest Operating Plan. If the allowable annual harvest is exceeded in one year, a corresponding reduction in harvest should be planned in subsequent years.

The selection of specific stands to enter for harvest should be based on forest condition. The stands in the poorest condition should be harvested first, with the objective of improving their condition and increasing the annual increment of growth. Do not enter the stands with the easiest access first, unless they are in the poorest condition and could be improved by management.

Marking the Timber

The trees to be harvested must be marked in a manner that facilitates the monitoring of harvest during contract administration. This is necessary to ensure that residual trees are protected and not harvested. If the timber harvest is a selective cut, each tree to be harvested must be marked with a tree number on the stump and on the bole. If the timber harvest is a clearcut, the boundary may be marked: there should be a mark on the boundary stump at ground level and another mark at about chest height facing the interior of the area to be harvested. The boundary trees must be leave trees.

Marking of leave trees is common in Nepal, but is not recommended because it is more work and because there is a loss of accountability between the cruised trees and the trees and logs that are harvested. If it is done, then, in addition to marking the leave trees, the contract boundary must be marked in a manner similar to a clearcut boundary and the logger must number the stumps of the trees that are cut.

The depot approach provides no incentive for the logger to cut unmarked timber. Doing so would only mean additional work for no additional pay. With the traditional lump-sum approach, any unmarked trees that are harvested without detection are taken without payment to the community. Therefore, a method of marking that is difficult to counterfeit is necessary. The easiest way to ensure integrity of the marking is to prepare a branding hammer that can be used to stamp each painted stump mark of the trees to be harvested.

Measuring the Timber

Depot Approach to Selling Timber

With the depot approach, the precision of volume measurement in the forest may be less than with lump-sum sales. The purpose of the volume estimate is to assist the logging contractor in estimating costs for bidding and to monitor compliance with maximum allowable annual harvest requirements. However, the volume and species of the surplus logs, after meeting community needs, must be measured accurately, since the sale of logs from the depot is essentially a lump-sum sale.

Each log at the depot should be measured to determine its volume in cubic feet. The diameter at each end of the log and the length should be measured. Detailed tally sheets with each log's species, grade, measurements, and volume must be maintained. With that information, the volume of individual logs in cubic feet can be calculated with the following formula:

$$\text{Cubic Foot Volume} = \frac{\pi \times d^2}{576} \times l$$

Where: d = the average of the large and small end diameters in inches
l = the length in feet
π = 3.1416

If the skills are available, make deductions for defect. Otherwise, sell the timber based on its gross volume and let the bidders make their own assessment of recovery.

Traditional Approach to Selling Timber

With lump-sum sales under the traditional approach, a relatively precise measurement of the volume sold is needed to ensure that the buyer does not pay too much or too little. If more volume is harvested than anticipated, the buyer stands to benefit, and vice-versa. A detailed estimate of timber quantity, quality, and species is necessary, since this estimate is used to determine the amount of payment. The cubic volume should be estimated based on the length of the merchantable bole and the diameters at each end. The diameter at the large end should be taken above any excessive swelling, probably at the diameter at breast height. The cubic foot volume of each tree is calculated with formula given above.

Most timber sales are of relatively small volume, so it is recommended that every tree be measured. If this is not feasible, then a random sampling method should be used. The sampling intensity should result in a sampling error of no less than 10 percent. If a sampling method is used that is dependent upon area, a GPS device should be used.

Detailed tally sheets of the tree number, species, and volume must be maintained. These tally sheets will be useful later during contract administration or if there is ever a need to audit the timber sale volume or processes.

Valuing the Timber

The timber should be advertised with a minimum price based on a reasonable assessment of the fair market value. The advertised minimum price should be slightly less, perhaps 20 percent, than the fair market value estimate. The purpose of this is to attract multiple bidders and to ensure that at least one bidder is willing to bid, if the fair market value estimate is too high.

In the depot approach, where harvested logs are being sold, the only difference between fair market value of logs at the sawmill and fair market value of logs at the community forest depot is the cost of loading and transportation. If necessary, ask for assistance from the Department of Forests to determine log prices at the sawmill and estimated transportation costs.

In the traditional approach with lump-sum sales, in addition to sawmill log prices and transportation costs, the Department of Forests may need to help estimate logging costs to develop the minimum bid price.

CONTRACT PREPARATION

A written contract is necessary to document every timber harvest transaction. At a minimum, the contract must identify: the timber to be harvested, where it is located, the parties to the contract, the price and terms of payment, and any other contract requirements, such as resource protection needs. A contract provides for the implementation of forest management objectives.

With the depot approach to contracting for timber harvest, two contracts are required. However, both contracts are very simple. The first is a service contract that procures the services of a logger to cut the marked trees and remove them to a sorting yard or depot. This contract does require some resource protection provisions. The second contract is a sales contract. The logs that the community desires to sell, after community needs are met, are identified at the depot. The purchaser pays for and removes the logs. Ownership of the logs transfers when the logs are paid for and removed.

In some situations, a more traditional approach to selling timber may work better. With the traditional approach to timber sale harvest, a contractor or logger is selected to harvest the timber being sold and transport it to a processing facility. The logger pays the community for the timber, and the processing facility purchases it from the logger. The lump-sum procedure for contracting is presented here. The price paid is based on the volume of timber measured before harvest. Ownership of the timber transfers when it is paid for and removed. This avoids the need to monitor log movement on the highway and the need to ensure that the logs are accurately measured and paid for.

The contract must be completed. Except for the performance bond amount, data for contract completion comes from the cruise of the volume to be removed. The contract must meet all objectives, requirements, and constraints. Exhibits 2.1 and 2.2 are designed for use with the depot approach to timber sales. Exhibit 2.3 is appropriate for the traditional lump-sum approach to timber sales.

Performance Bond Amount

This applies only to the traditional contract approach. The purchaser must pay for timber or provide a payment bond before cutting of any trees. The performance bond is intended to cover the value of any additional trees that are added to the contract, so that operations are not delayed while arranging for payment. It is also intended to provide for any unfulfilled obligations of the purchaser, such as erosion control, after all the timber has been removed. Therefore, the performance bond amount can be minimal, about the value of two or three trees.

In the depot approach to timber sales, the community will owe the contractor some money when timber removal has been completed. Therefore, it is important to inspect the contract area to ensure that the contractor has completed all of the required work, such as timber removal and erosion control, before the final payment is made.

Special Provisions

These provisions are added to the contract to meet management objectives on a particular contract area.

Contract Area Map

A contract area map is required. The map must be legible, complete, accurate, and readily understandable by harvesters. For most small sales, the map can be relatively simple. Personal computer programs or geographic information system technology can prepare high-quality, legible maps.

Indicate on the contract area map any specific items required in the contract. The contract area map may consist of one or more sheets. Title each sheet "Contract Area Map" and number the sheets consecutively; for example, "Sheet 1 of 1" or "Sheet 1 of 2" and so forth. Identify the contract name and the geographic area under or near this heading. Include the scale and north arrow to orient the map. Date each sheet and have the drafter initial it.

Be sure that legend items are neat, clear, reproducible, and understandable. The map legend must include all symbols used on a particular map. Statements on the legend may identify areas that are subject to specified contract provisions.

EXHIBIT 2.1. *This contract should be used to sell logs from a community depot.*

TIMBER SALE CONTRACT

Sale Name:	Contract Number	Award Date	Termination Date
Purchaser's Name and Complete Address:	Location of Timber:		

The parties to this contract are ____, hereinafter called the Seller, and ____, hereinafter called the Purchaser.
The Seller's address to receive payments is: ____.

Estimated Volumes of Included Timber

Species	Product	Estimated Quantity	Unit of Measure	Contract Rates (Nr)
	Total Quantity		Total Sale Value (Nr)	

The Purchaser shall remove all logs from the sale area. Any logs that are not included in this sale, but are within the sale area, are identified with paint marks.

The Timber Sale Account is an account maintained by the Seller of all the Purchaser's deposits, credits, and the charges for logs. Cash deposits shall be recorded currently in such an account. The Purchaser agrees to make cash deposits in advance of removal of any logs.

The Purchaser's operations shall be conducted in an orderly manner.

All removal of logs shall be completed by the termination date. Ownership of any logs not removed by the termination date shall revert back to the Seller, without any refund to the Purchaser for payment for logs.

PURCHASER (Name and Address)	**SELLER (Name and Address)**
By (Signature) PURCHASER	By (Signature) SELLER
WITNESS	WITNESS

In witness hereof, the parties hereto have executed this contract as of the award date

(Witness Signature)	(Witness Signature)

EXHIBIT 2.2. *This contract is a service contract and should be used to contract the logging of trees and delivery of logs to the community depot.*

TIMBER REMOVAL CONTRACT

Contract Name:	Contract Number	Award Date	Termination Date (8.2)
Contractor's Name and Complete Address:	Total Contract Hectares	Hectares to Be Cut	Total Bid Payment Amount (3.1) (Nr)

The parties to this contract are ____, hereinafter called the Community, and ___ ____, hereinafter called the Contractor. Standard Provisions of this contract begin on page 2. Specific Conditions are given below. Numbers in parentheses refer to Standard and Special Provisions.

Estimated Timber to Be Removed (2.1, 2.2, 2.5, and 6.4)

				Minimum Piece Required to Be Removed		
Species	Product	Estimated Quantity	Unit of Measure	Length (m)	Diameter inside bark(D.I.B.) at Small End (cm)	Net Scale in % of Gross Scale
	Total Quantity					

Inapplicable Standard Provisions:	List of Special Provisions:
PURCHASER (Name and Address)	**COMMUNITY (Name and Address)**
By (Signature and Title) PURCHASER	By (Signature and Title) COMMUNITY

WITNESS WITNESS

In witness hereof, the parties hereto have executed this contract as of the award date

(Witness Signature) (Witness Signature)

References to a Section include all Subsections. Descriptive headings used are not to be considered in determining the rights and obligations of the parties hereunder.

The Standard Provisions are subject to Specific Conditions of the contract stated on page 1. The listing of inapplicable Sections on page 1 has the effect of striking or deleting them from the contract. Page 1 lists Special Provisions that are included in the contract.

1.0—CONTRACT AREA

1.1 Contract Area Map. The boundaries of "Contract Area" are as shown on the attached "Contract Area Map." Where applicable, the following are also identified on Contract Area Map:

(a) Improvements to be protected under 6.2

(b) Streamcourses to be protected under 6.5

(c) Boundaries of clearcutting units

(d) Other features required by standard or special provisions

2.0—TIMBER SPECIFICATIONS

2.1 Timber to Be Removed. Timber included for removal consists of:

2.1.1 Standard Timber. Live and dead trees and portions thereof that meet Utilization Standards under 2.2 and are designated for cutting under 2.3.

2.1.2 Damaged Timber. Undesignated live trees damaged by the Contractor in logging or by natural causes that are subsequently marked by the Community.

2.1.3 Road Construction Timber. Undesignated live trees marked to be cut for road construction under 5.1.

2.2 Utilization and Removal of Timber. "Utilization Standards" for minimum pieces are stated on page 1. The Contractor shall fell and buck marked trees and shall remove from Contract Area all pieces that meet minimum piece standards on page 1.

2.3 Timber Designations. Timber designated for cutting shall be confined to Contract Area.

The boundaries of clearcutting units were plainly marked on the ground before contract advertisement and are shown on Contract Area Map. Boundary trees shall not be cut. All trees to be cut, other than in clearcutting units, are marked. Trees are "marked" when individually designated by the Community with paint marks above and below stump height and a stump brand.

2.4 Log Identification. The Purchaser shall identify each log with the stump number and the log position. The paint color used for this identification must be different than the paint color used to identify the trees to be cut.

2.5 Quantity Estimate. The estimated quantities of timber by species designated for cutting under 2.3 and expected to be cut under Utilization Standards are listed on page 1. Estimated quantity on page 1 does not include damaged timber or road construction timber.

3.0—RATES OF PAYMENT

3.1 Total Bid Payment Amount. The Community will pay the Contractor for timber as the harvest is completed. Every 15 days, the Community will estimate the proportion of the total timber that has been removed to the depot. The estimated proportion will be applied to the Total Bid Payment Amount that is shown on page 1 to determine the amount of payment due.

3.2 Payment Rates for Damaged and Road Construction Timber. Timber damaged by natural causes, if included and marked by the Community, and road construction timber shall be paid for at the average payment amount per unit of measure. Timber damaged by the Contractor, if included and marked by the Community, shall be removed to the depot, but shall not be paid for.

4.0—PAYMENTS

4.1 Contract Account. The "Contract Account" is an account maintained by the Community of all of the Contractor's credits and the payments for:

(a) Timber removal at Total Bid Payment Amount,

(b) Additional timber removed, and

(c) Other charges and payments provided in this contract.

The Contractor's credits for removal and payments shall be recorded currently in such account. The Community shall explain the payment amount at the time it makes each payment.

5.0—TRANSPORTATION FACILITIES

5.1 Authorization. The Contractor is authorized to construct and maintain roads, bridges, and other transportation facilities, as needed for harvesting timber to be removed. The location and clearing widths of all roads or facilities shall be agreed to before construction is started. The Contractor shall maintain roads commensurate with the Contractor's use.

6.0—OPERATIONS

6.1 Representatives. The Contractor shall designate, in writing, a representative who is authorized to receive notices in regard to performance under this contract and take related action. The Contractor's representative shall designate, in writing, a field supervisor, one of whose responsibilities shall be on-the-ground direction and supervision of the Contractor's Operations. The field supervisor shall be readily available to the area of operations when operations are in progress and shall be authorized to receive notices in regard to performance under this contract and take related action. The responsibilities of the field supervisor shall include the safeguarding of resources and performance within the terms of the contract. Notices by either party as to action taken or to be taken by the other respecting this contract shall be made in writing to the other party's representative.

6.2 Improvements. The Contractor shall protect improvements (such as roads, trails, telephone lines, ditches, and fences) designated on Contract Area Map. The Contractor shall make timely restoration of any such improvements damaged by the Contractor's Operations.

6.3 Control of Operations. Under this contract, "Contractor's Operations" shall include activities of or use of equipment of the Contractor, the Contractor's employees, agents, contractors, subcontractors, or their employees or agents, acting in the course of their employment in operations hereunder. The Contractor's Operations shall be conducted in an orderly manner.

6.31 Protection of Residual Trees. The Contractor's Operations shall not unnecessarily damage young growth or other trees to be reserved.

6.32 Safety. The Contractor's Operations shall facilitate the Community's safe and practical inspection of the Contractor's Operations and conduct of other official duties on the Contract Area. The Contractor has all responsibility for compliance with safety requirements for the Contractor's employees.

6.33 Sanitation and Servicing. The Contractor shall take all reasonable precautions to prevent pollution of air, soil, and water by the Contractor's Operations. In the event that the Contractor's Operations or servicing of equipment result in pollution to soil or water, the Contractor shall conduct cleanup and restoration of the polluted site to the satisfaction of the Community.

6.34 Prevention of Oil Spills. If the Contractor maintains storage facilities for oil or oil products on Contract Area, the Contractor shall take appropriate preventive measures to ensure that any spill of such oil or oil products does not enter any stream or other waters.

6.4 Conduct of Logging. The Contractor shall fell trees designated for cutting and shall remove the portions that meet Utilization Standards, as provided in 2.2.

Felling shall be done to minimize breakage of timber to be removed and damage to residual timber. Bucking shall be done to permit removal of all minimum pieces set forth on page 1.

Location of all landings, tractor roads, and skid trails shall be agreed upon prior to their construction.

6.5 Streamcourse Protection. "Streamcourses" are shown on Contract Area Map. The Contractor's Operations shall be conducted to prevent debris from entering streamcourses. In event the Contractor causes debris to enter streamcourses, it shall be removed. Wheeled or track-laying equipment shall not be operated in streamcourses, except at crossings designated by the Community.

6.6 Erosion Prevention and Control. The Contractor's Operations shall be conducted reasonably to minimize soil erosion. Equipment shall not be operated when ground conditions are such that excessive damage will result. The Contractor shall adjust the kinds and intensity of erosion control work done to ground and weather conditions and the need for controlling runoff. Erosion control work shall be kept current immediately preceding expected seasonal periods of precipitation or runoff. The Contractor shall construct cross-ditches and water-spreading ditches on tractor roads and skid trails to minimize erosion.

6.7 Measuring. "Measuring" is the estimation of timber quantities using certain dimensions and applicable volume tables or formulae to determine the contents of trees or stands in a standard manner. The quantity of timber designated or to be designated for cutting has been or shall be measured.

7.0—FIRE PRECAUTIONS AND CONTROL

7.1 Fire Control. The Contractor shall take all reasonable and practicable action to prevent and suppress fires resulting from the Contractor's Operations and to suppress any forest fire on the Contract Area. The Contractor's independent initial fire suppression action on such fires shall be immediate and shall include the use of all necessary personnel and equipment at the Contractor's disposal. Where the Contractor's employees, agents, contractors, subcontractors, or their employees or agents perform the Contractor's Operations in connection with fire responsibilities, the Contractor's obligations shall be the same as if performance was by the Contractor.

8.0—OTHER CONDITIONS

8.1 Title and Liability. All rights, title, and interest in and to any timber to be removed shall remain in the Community.

8.2 Period of Contract. All obligations of the Contractor shall be discharged not later than "Termination Date" stated on page 1, excepting only those obligations for which the Community has given written permission to delay performance.

8.3 Contract Modification. The conditions of this contract are completely set forth in this contract. This contract can be modified only by written agreement between the parties.

9.0—PERFORMANCE AND SETTLEMENT

9.1 Disputes. The Contractor shall submit disputes of less than Nr 250,000 to the Community Forest User Group Committee. The Community Forest User Group Committee must decide the dispute within 30 days or notify the Contractor of the date when the decision will be made.

The Contractor shall submit disputes in excess of Nr 250,000 to the District Forest Officer. The District Forest Officer must decide the dispute within 60 days or notify the Contractor of the date when the decision will be made.

Failure by the Contractor to submit a dispute within 30 days after becoming aware of the disputed issue shall render the dispute void.

All contract documents are intended to be consistent with each other. In case of discrepancy, the following is the order of precedence:

(a) Special Provisions

(b) Contract Area Map

(c) Specific Conditions on Page 1

(d) Standard Provisions

(e) Special Project Specifications

(f) Agreements between the Contractor and the Community, as authorized under the contract

9.2 Breach. In event the Contractor breaches any of the material provisions of this contract, the Community shall give the Contractor notice of such breach and, allowing reasonable time for remedy of such breach, may give notice to suspend all or any part of the Contractor's Operations. Such notice of breach and notice to suspend the Contractor's Operations

shall be written, except oral notices may be given if such breach constitutes an immediate threat to human life or a threat of immediate and irreparable damage to resources.

The Community may terminate this contract for breach in the event the Contractor fails to remedy the breach.

9.3 Settlement. If obligations of the Contractor have not been fully discharged by Termination Date, any money owed the Contractor shall be retained and applied toward unfulfilled obligations of the Contractor without prejudice to any other rights or remedies of the Community.

9.4 Contract Closure. The Community shall give appropriate written notice to the Contractor when the Contractor has complied with the terms of this contract.

EXHIBIT 2.3. *This contract is for the traditional lump-sum approach and should be used for harvesting and selling timber.*

TIMBER SALE CONTRACT

Sale Name:	Contract Number	Award Date	Termination Date (8.2)
Contractor's Name and Complete Address:	Total Sale Hectares	Hectares to Be Cut	Performance Bond Amount (9.1) (Nr)

The parties to this contract are ________________________________, hereinafter called the Seller, and ____________________________, hereinafter called the Purchaser. Standard Provisions of this contract begin on page 2. Specific Conditions are given below. Numbers in parentheses refer to Standard and Special Provisions. The Seller's address to receive payments (4.11) is: ____. Measurement of additional timber will be done before felling (6.7).

Included Timber (2.1, 2.2, 2.5, 3.1, and 6.4)

Species	Product	Estimated Quantity	Unit of Measure	Minimum Piece Required to Be Removed			Current Contract Rates (Nr)
				Length (m)	D.I.B. at Small End (cm)	Net Scale in % of Gross Scale	
	Total Quantity					Total Sale Value (Nr)	

Schedule of Payment Units, if applicable

Payment Unit Number	Approximate Hectares	Quantity	Unit of Measure	Total Payment at Current Contract Rates (3.1) (Nr)

Inapplicable Standard Provisions:	List of Special Provisions:
PURCHASER (Name and Address)	**SELLER (Name and Address)**
By (Signature and Title) PURCHASER	By (Signature and Title) SELLER
WITNESS In witness hereof, the parties hereto have executed this contract as of the award date (Witness Signature)	WITNESS (Witness Signature)

References to a Section include all Subsections. Descriptive headings used are not to be considered in determining the rights and obligations of the parties hereunder.

The Standard Provisions are subject to Specific Conditions of the contract stated on page 1. The listing of inapplicable Sections on page 1 has the effect of striking or deleting them from the contract. Page 1 lists Special Provisions that are included in the contract.

1.0—SALE AREA

1.1 Sale Area Map. The boundaries of "Sale Area" and any Payment Unit thereof are as shown on the attached "Sale Area Map." Where applicable, the following are also identified on Sale Area Map:

(a) Improvements to be protected under 6.2
(b) Streamcourses to be protected under 6.5
(c) Boundaries of clearcutting units
(d) Other features required by standard or special provisions

2.0—TIMBER SPECIFICATIONS

2.1 Included Timber. "Included Timber" consists of:

2.1.1 Standard Timber. Live and dead trees and portions thereof that meet Utilization Standards under 2.2 and are designated for cutting under 2.3.

2.1.2 Damaged Timber. Undesignated live trees damaged by the Purchaser in logging or by natural causes that are subsequently marked by the Seller.

2.1.3 Road Construction Timber. Undesignated live trees marked to be cut for road construction under 5.1.

2.2 Utilization and Removal of Included Timber. "Utilization Standards" for minimum pieces are stated on page 1. The Purchaser shall fell and buck marked trees and shall remove from the Sale Area all pieces that meet minimum piece standards on page 1.

2.3 Timber Designations. Timber designated for cutting shall be confined to Sale Area.

The boundaries of clearcutting units were plainly marked on the ground before timber sale advertisement and are shown on the Sale Area Map. Boundary trees shall not be cut. All trees to be cut, other than in clearcutting units, are marked. Trees are "marked" when individually designated by the Seller with paint marks above and below stump height and a stump brand.

2.4 Log Identification. The Purchaser shall identify each log with the stump number and the log position. The paint color used for this identification must be different than the paint color used to identify the trees to be cut.

2.5 Quantity Estimate. The estimated quantities of timber by species designated for cutting under 2.3 and expected to be cut under Utilization Standards are listed on page 1. Estimated quantity on page 1 does not include damaged timber or road construction timber.

3.0—RATES OF PAYMENT

3.1 Current Contract Rates. Standard Timber that is released for cutting shall be paid for at Current Contract Rates listed on page 1. A "Payment Unit" is a portion of Sale Area established for payment purposes.

3.2 Payment Rates for Damaged and Road Construction Timber. Timber damaged by natural causes, if included and marked by the Seller, and road construction timber shall be paid for at Current Contract Rates. Timber damaged by the Purchaser shall be paid for at three times Current Contract Rates, if included and marked by the Seller.

4.0—PAYMENTS

4.1 Timber Sale Account. The "Timber Sale Account" is an account maintained by the Seller of all of the Purchaser's deposits, credits, payment guarantees, and the charges for:

(a) Timber at Current Contract Rates,

(b) Charges for payment units released for cutting, and

(c) Other charges provided in this contract.

Cash deposits shall be recorded currently in such account.

4.1.1 Cash Deposits. The Purchaser shall make cash deposits to meet the Purchaser's obligations within 15 days of billing by the Seller. Deposits shall be made to the address on page 1. The Seller shall explain the bill at the time it requests each deposit.

4.1.2 Advance Deposits. The Purchaser agrees to make cash deposits in advance of cutting to meet charges under 4.1. To the extent payment guarantee is provided under 4.2, requirements for advance cash deposits shall be waived.

4.1.3 Refund of Excess Cash. Any cash deposit, in excess of that required to meet charges under 4.1, shall be refunded or transferred within 15 days of the Purchaser's request after final charges for Included Timber have been made, except for amounts estimated to be required under 9.4.

4.2 Payment Guaranteed by Bond. To guarantee payment, the Purchaser may furnish and maintain an acceptable surety bond or negotiable securities. The penal sum of such surety bond or market value of negotiable securities shall be the maximum amount of the payment guaranteed. For payment purposes, said penal sum of the surety bond or market value at time of deposit of negotiable securities shall be in lieu of the performance bond furnished under 9.1.

4.3 Letters of Credit. The Purchaser may use letters of credit in lieu of a surety bond for payment or performance bond purposes when approved by the Seller.

4.4 Payments Not Received. (a) Payments are due and payable on the date of issue indicated on the bill for collection. When a payment for timber cut and other charges is not received at the location designated by the Seller by the date allowed in the bill for collection for receipt of payment, the Seller will suspend all or any part of the Purchaser's Operations until payment or acceptable payment guarantee is received. (b) Failure to pay amounts due by the date allowed in the bill for collection for receipt of payment shall be considered a breach under 9.3. The 30-day notice period prescribed therein shall begin to run as of the end of business on the date allowed for receipt of payments. If the performance

or payment is guaranteed by surety bond, demand will be made on the surety or other institution providing the guarantee or bond instrument for immediate payment 10 days after issuance of written notification of the breach.

5.0—TRANSPORTATION FACILITIES

5.1 Authorization. The Purchaser is authorized to construct and maintain roads, bridges, and other transportation facilities, as needed for harvesting included timber. The location and clearing widths of all roads or facilities shall be agreed to before construction is started. The Purchaser shall maintain roads commensurate with the Purchaser's use.

6.0—OPERATIONS

6.1 Representatives. The Purchaser shall designate, in writing, a representative who is authorized to receive notices in regard to performance under this contract and take related action. The Purchaser's representative shall designate, in writing, a field supervisor, one of whose responsibilities shall be on-the-ground direction and supervision of the Purchaser's Operations. The field supervisor shall be readily available to the area of operations when operations are in progress and shall be authorized to receive notices in regard to performance under this contract and take related action. The responsibilities of the field supervisor shall include the safeguarding of resources and performance within the terms of the contract. Notices by either party as to action taken or to be taken by the other respecting this contract shall be made in writing to the other party's representative.

6.2 Improvements. The Purchaser shall protect improvements (such as roads, trails, telephone lines, ditches, and fences) designated on Sale Area Map. The Purchaser shall make timely restoration of any such improvements damaged by the Purchaser's Operations.

6.3 Control of Operations. Under this contract, "Purchaser's Operations" shall include activities of or use of equipment of the Purchaser, the Purchaser's employees, agents, contractors, subcontractors, or their employees or agents, acting in the course of their employment in operations hereunder. The Purchaser's Operations shall be conducted in an orderly manner.

"Release for Cutting" is written authorization to the Purchaser to begin cutting in a Payment Unit. When payment or payment guarantee has been confirmed, the Seller shall issue Release for Cutting. The Purchaser shall not cut timber in any Payment Unit until it is Released for Cutting.

6.3.1 Protection of Residual Trees. The Purchaser's Operations shall not unnecessarily damage young growth or other trees to be reserved.

6.3.2 Safety. The Purchaser's Operations shall facilitate the Seller's safe and practical inspection of the Purchaser's Operations and conduct of other official duties on Sale Area. The Purchaser has all responsibility for compliance with safety requirements for the Purchaser's employees.

6.3.3 Sanitation and Servicing. The Purchaser shall take all reasonable precautions to prevent pollution of air, soil, and water by the Purchaser's Operations. In the event that the Purchaser's Operations or servicing of equipment result in pollution to soil or water, the Purchaser shall conduct cleanup and restoration of the polluted site to the satisfaction of the Seller.

6.3.4 Prevention of Oil Spills. If the Purchaser maintains storage facilities for oil or oil products on Sale Area, the Purchaser shall take appropriate preventive measures to ensure that any spill of such oil or oil products does not enter any stream or other waters.

6.4 Conduct of Logging. The Purchaser shall fell trees designated for cutting and shall remove the portions that meet Utilization Standards, as provided in 2.2.

Felling shall be done to minimize breakage of included timber and damage to residual timber. Bucking shall be done to permit removal of all minimum pieces set forth on page 1.

Location of all landings, tractor roads, and skid trails shall be agreed upon prior to their construction.

6.5 Streamcourse Protection. "Streamcourses" are shown on Sale Area Map. The Purchaser's Operations shall be conducted to prevent debris from entering streamcourses. In event the Purchaser causes debris to enter streamcourses, it shall be removed. Wheeled or track-laying equipment shall not be operated in streamcourses, except at crossings designated by the Seller.

6.6 Erosion Prevention and Control. The Purchaser's Operations shall be conducted reasonably to minimize soil erosion. Equipment shall not be operated when ground conditions are such that excessive damage will result. The Purchaser shall adjust the kinds and intensity of erosion control work done to ground and weather conditions and the need for controlling runoff. Erosion control work shall be kept current immediately preceding expected seasonal periods of precipitation or runoff. The Purchaser shall construct cross-ditches and water-spreading ditches on tractor roads and skid trails to minimize erosion.

6.7 Measuring. "Measuring" is the estimation of timber quantities using certain dimensions and applicable volume tables or formulae to determine the contents of trees or stands in a standard manner. The quantity of timber designated or to be designated for cutting has been or shall be measured.

7.0—FIRE PRECAUTIONS AND CONTROL

7.1 Fire Control. The Purchaser shall take all reasonable and practicable action to prevent and suppress fires resulting from the Purchaser's Operations and to suppress any forest fire on Sale Area. The Purchaser's independent initial fire suppression action on such fires shall be immediate and shall include the use of all necessary personnel and equipment at the Purchaser's disposal. Where the Purchaser's employees, agents, contractors, subcontractors, or their employees or agents perform the Purchaser's Operations in connection with fire responsibilities, the Purchaser's obligations shall be the same as if performance was by the Purchaser.

8.0—OTHER CONDITIONS

8.1 Title and Liability. All rights, title, and interest in and to any included timber shall remain with the Seller until it has been measured, removed from Sale Area, and paid for, at which time title shall vest in the Purchaser. For purposes of this Section, timber in Payment Units Released for Cutting covered by cash deposit or payment guarantee under 4.2 shall be considered to have been paid for. Title to any included timber that has been measured and

paid for, but not removed from Sale Area by the Purchaser on or prior to the Termination Date, shall remain with the Seller.

8.2 Period of Contract. All obligations of the Purchaser shall be discharged not later than "Termination Date" stated on page 1, excepting only those obligations for which the Seller has given written permission to delay performance.

8.3 Contract Modification. The conditions of this timber sale are completely set forth in this contract. This contract can be modified only by written agreement between the parties.

9.0—PERFORMANCE AND SETTLEMENT

9.1 Performance Bond. As a further guarantee of the faithful performance of the provisions of this contract, the Purchaser delivers herewith and agrees to maintain a surety bond in the dollar amount stated on page 1.

9.2 Disputes. The Purchaser shall submit disputes of less than Nr 250,000 to the Community Forest User Group Committee. The Community Forest User Group Committee must decide the dispute within 30 days or notify the Purchaser of the date when the decision will be made.

The Purchaser shall submit disputes in excess of Nr 250,000 to the District Forest Officer. The District Forest Officer must decide the dispute within 60 days or notify the Purchaser of the date when the decision will be made.

Failure by the Purchaser to submit a dispute within 30 days after becoming aware of the disputed issue shall render the dispute void.

All contract documents are intended to be consistent with each other. In case of discrepancy, the following is the order of precedence:

(a) Special Provisions
(b) Sale Area Map
(c) Specific Conditions on Page 1
(d) Standard Provisions
(e) Special Project Specifications
(f) Agreements between the Purchaser and the Seller, as authorized under the contract

9.3 Breach. In event the Purchaser breaches any of the material provisions of this contract, the Seller shall give the Purchaser notice of such breach and, allowing reasonable time for remedy of such breach, may give notice to suspend all or any part of the Purchaser's Operations. Such notice of breach and notice to suspend the Purchaser's Operations shall be written, except oral notices may be given if such breach constitutes an immediate threat to human life or a threat of immediate and irreparable damage to resources.

The Seller may terminate this contract for breach in the event the Purchaser fails to remedy the breach.

9.4 Settlement. If obligations of the Purchaser have not been fully discharged by the Termination Date, any money advanced or deposited hereunder shall be retained and applied toward unfulfilled obligations of the Purchaser without prejudice to any other rights or remedies of the Seller.

9.5 Contract Closure. The Seller shall give appropriate written notice to the Purchaser when the Purchaser has complied with the terms of this contract. The Purchaser shall be paid refunds due from the Timber Sale Account under 4.13.

PREPARING THE BID PACKAGE

Prospective Bidder Letter or Notice

A prospective bidder letter or notice should be mailed (or emailed or broadcast to selected cell phones) to prospective bidders on or before the date of the advertisement. Exhibit 3.1 displays an example of the prospective bidder letter.

Solicit and maintain a prospective bidders list, which makes it possible to notify prospective bidders informing them that a contract is being offered and that a complete bid package is available upon request. The prospective bidder letter or notice provides only a minimum amount of information to the prospective bidder, who must then request the prospectus and other information.

The bid package sent to prospective bidders should include advertisement, prospectus, bid form, and contract area map. Allow prospective bidders to inspect the contract and other documentation at the office listed in the advertisement and prospectus. Ensure that each prospective bidder receives the same information.

EXHIBIT 3.1 *Sample of Prospective Bidder Letter or Notice*

Date:

Dear Prospective Bidder:

On ____(Date)____, at ____(Time)____, sealed bids will be opened in the ______(Office Name and Address)____ for the ________(Name of Contract)________. This contract is located in ______(Location)______. The termination date for this contract is ____(Termination Date)____.

(Alternative 1 for the cutting and removal of timber to a depot)

The total volume of the contract is _____ cubic feet. The contract requires the cutting of this timber and its removal to a depot. The ownership of the timber will remain with the Community Forest User Group.

(Alternative 2 for the traditional approach to sales or the sale of logs from a depot)

The average minimum acceptable bid per cubic foot for advertised timber is Nr_____. The total volume of the contract is _____ cubic feet.

If you wish further information on this contract, the prospectus, bid form, and contract area map, please write or call the ____(Name of Office and Complete Address and Telephone Number)____.

Sincerely,

NAME

Title

Prospectus

A prospectus should be prepared for all contracts. The prospectus attracts interest in a timber offering, directs attention to new and changed procedures, and furnishes information beyond that contained in the advertisement or prospective bidder letter/notice. The prospectus enables prospective bidders to decide whether they should investigate the contract further.

Exhibit 3.2 displays an example of a prospectus. Paragraph numbers and titles that are inapplicable for a contract must be marked "Not Applicable." Remove any instructions from the paragraph.

EXHIBIT 3.2 *Sample of Prospectus*

CONTRACT PROSPECTUS

Contract Name:

Location of Bid Opening Office: ____________________

Address: ____________________

____

Date: __________ Time: ____________________

1. **INTRODUCTION.** This prospectus furnishes prospective bidders with information not contained in the published advertisement and is designed to enable bidders to decide whether or not to further investigate the contract. The prospectus is not a legally binding document, but is offered to provide general information about a contract. In the event that the prospectus contains an error or contradicts the sample contract, the contract governs. Bidders are urged to examine the contract area and make their own estimates. Inspect the contract area and the sample contract before submitting a bid. Obtain other information on the timber and conditions of contract and bidding at the office listed above and in the attached advertisement.

2. **BIDDING**. This is a sealed bid contract. Bidders must submit sealed bids on prepared forms they can obtain from the office listed above and in the attached advertisement. The forms include instructions for bidding.

   (Alternative 1 for the cutting and removal of timber to a depot)

   Prospective bidders must submit bids that represent the minimum amount of payment that they are willing to accept for the cutting of this timber and its removal to a depot. The ownership of the timber will remain with the Community Forest User Group. The bid form states the total volume that is expected to be removed.

   (Alternative 2 for the traditional approach to sales or the sale of logs from a depot)

   Prospective bidders must submit bids of at least the minimum acceptable bid per cubic feet. The bid form states the minimum acceptable bid per cubic foot and the total volume contained within the contract.

3. **LOCATION AND DESCRIPTION OF TIMBER.** Refer to the sample contract and contract area map attached to the sample contract for location of contract area and the area in hectares of the contract area.

   The following general location, routes of access, and other special location data do not supersede the contract area map or sample contract.

   (Enter the general location, routes of access, area of the contract, and other special information. In addition, enter a brief description of how the timber is to be designated for harvest and any special logging requirements. Include any other description, as warranted.)

4. **ACCEPTABLE BID.** *(Alternative 1 for the cutting and removal of timber to a depot)*

   Bidders are urged to examine the timber contract area and make their own estimates of the size and volume of the timber and its difficulty of extraction. Prospective bidders must submit bids that represent the minimum amount of payment that they are willing to accept for the cutting of this timber and its removal to a depot.

(continued)

CONTRACT PROSPECTUS *(continued)*

(Alternative 2 for the traditional approach to sales or the sale of logs from a depot)

Bidders are urged to examine the timber contract area and make their own estimates of the quality, size, volume, and product suitability of the timber and its difficulty of extraction. The average minimum acceptable bid per cubic foot is Nr ______.

5. PERIOD OF CONTRACT. The contract termination date is _______ .

6. PERFORMANCE BOND. *(Include this paragraph only for the traditional approach to sales)* A performance bond is required. The penal sum of the bond will be Nr ________.

7. PAYMENT. *(Alternative 1 for the cutting and removal of timber to a depot)*

Contractor will be paid for the removal of timber twice a month, based on an estimate of the total volume removed during that period.

(Alternative 2 for the traditional approach to sales or the sale of logs from a depot)

Payment for timber is required in advance of cutting or removal, or the contract holder may provide an acceptable payment guarantee prior to cutting.

8. AWARD. A determination of bidder responsibility will be made. To determine a bidder to be responsible, it must be found that

a. The bidder has adequate financial resources to perform the contract or the ability to obtain them;

b. The bidder is able to perform the contract within the contract term, taking into consideration all existing contracts;

c. The bidder has a satisfactory performance record on contracts;

d. The bidder has a satisfactory record of integrity and business ethics;

e. The bidder has or is able to obtain equipment and supplies suitable for logging the timber and for meeting the resource protection provisions of the contract; and

f. The bidder is otherwise qualified and eligible to receive an award under applicable policies, laws, and regulations.

Bidders, by signing the bid form, certify that, if awarded this contract, that bidder will complete the contract in accordance with its terms.

9. GENERAL. *(Add other information, such as requirements for erosion control, slash disposal, protection of reserve trees, streamcourse protection, protection of wildlife habitat, and other information particular to the contract offering.)*

Advertisement

All contracts should be advertised. Make the advertisement clear and concise, and include only essential elements. Exhibit 3.3 is an example of an advertisement. Include additional information in the prospectus. Distribute a copy of the published advertisement with the bid package sent to all prospective bidders. The purposes of advertising are to:

1. Attract bids from as many bidders as possible.
2. Give timber operators in the locality equal opportunity to examine the offered timber and to bid on it.
3. Prevent any possibility of favoritism in the disposal of community timber.
4. Inform interested citizens, other than timber operators, of the contract offering.

Advertisements for contracts should be published in newspapers that are likely to be read by prospective bidders. Generally, contracts should be advertised for 30 days, but if there is assurance that all possible interested bidders will be informed, the advertising period could be shorter; for example, if a harvest contract is advertised within a village. The prospectus and advertisement should be widely distributed. The intent is to attract bids from as many bidders as possible. In this way the highest price, or lowest price for service contracts, can be achieved.

EXHIBIT 3.3 *Sample of Contract Advertisement*

ADVERTISEMENT OF CONTRACT

The ______ (Name) ______ Contract is located within ______ (Location) ______. The (Name of Community Offering Contract) will receive sealed bids in public at (Location of Bid Opening) at (Time) local time on (Date) for an estimated (Enter Total Volume) available for cutting or removal.

(Alternative 1 for the cutting and removal of timber to a depot: Prospective bidders must submit bids that represent the minimum amount of payment that they are willing to accept for the cutting of this timber and its removal to a depot.)

(Alternative 2 for the traditional approach to sales or the sale of logs from a depot:)

The average minimum acceptable bid is Nr (Minimum Bid) per cubic foot.) The right to reject any and all bids is reserved. A prospectus, bid form, and complete information concerning the timber, the conditions of offer, and submission of bids is available to the public from the (List office where bid packages may be obtained).

Date Determination for Bid Opening

Unless a shorter period is authorized, the time of bid opening must be a minimum of 30 days, starting with the day after the first appearance of the advertisement in any publication. If the final date falls on a Saturday or holiday, establish the date of bid opening as the next business day. If the advertisement is to appear in more than one publication, ensure that the same final date appears in all. An advertisement does not have to appear more than once.

Extension of Advertising Period

An advertisement may be extended for a specified period of time upon the request of any responsible person desiring additional time for the examination of the timber. However, as a general rule, advertise long enough to avoid the necessity for extensions of the bidding period.

To accomplish such an extension, give notice of the extension through the same media used to carry the original advertisement. The notice need not repeat the details of the previous advertisement, but it should refer to the previous advertisement and should set forth the pertinent facts regarding the extension. Publish the extension notice before the originally scheduled bid date—preferably, sufficiently in advance to avoid inconvenience to prospective bidders.

Checking Advertisement and Correcting Mistakes

As soon as the advertisement appears in print, check it against the typed copy of the advertisement to determine if there are typographical errors or material mistakes. A material mistake incorrectly states the amount, kind, or location of the timber; the minimum price; the date, time, or place for the receipt of bids; or any other major condition of the sale. If this check discloses a material mistake, publish a corrected advertisement with the date for receiving bids to be no less than 30 days after publication of the corrected advertisement.

Bid Package

The bid package sent to prospective bidders must include advertisement, prospectus, bid form, and contract area map. Allow prospective bidders to inspect the contract and other documentation at the office listed in the advertisement and prospectus. Ensure that each prospective bidder receives the same information.

Minimize errors by preparing the bid package carefully and by checking it before distribution. Correct any errors found after distribution by mailing a correction notice or a new bid package. Notify prospective bidders by telephone of errors, or to cancel the advertisement, if necessary.

Solicit and maintain a prospective bidders list.

Bid Form

Exhibit 3.5-1 (Bid for Timber Removal) or 3.5-2 (Bid for Advertised Timber) must be used. Exhibit 3.5-3 is an Instructions to Bidders page that is used with either bid form. Complete the bid forms according to the following instructions:

Block 1 – Contract Number: Complete for all contracts prior to sending to prospective bidders.

Block 2 – Date of Bid Opening: Complete for all contracts prior to sending to prospective bidders.

Block 3 – Opened by: Complete at time of bid opening.

Block 4 – In the Presence of: Complete at time of bid opening.

Block 5 – Contract Name: Complete for all contracts prior to sending to prospective bidders.

Block 6 – Type of Bid: Preprinted as Sealed Bid.

Block 7 – To: Complete for all contracts prior to sending to prospective bidders.

Block 8 – Name of Newspaper: Complete for all contracts (name of newspaper where contract was advertised) prior to sending to prospective bidders.

Block 9 – Date Published: Complete for all contracts prior to sending to prospective bidders.

Block 10a – Contract Volume of Timber: Complete for all contracts, in cubic feet, prior to sending to prospective bidders.

(Alternative 1 for the cutting and removal of timber to a depot)

Block 10b – Bidder's Bid per Cubic Foot for Removal of Timber: To be completed by bidder.

Blocks 11 through 14: Include in all contracts.

Block 15 – Other Requirements That Bidder Must Meet: Type in any other requirements that the bidder must meet. For example, bidding may be open only to members of the Community Forest User Group. If there are no other requirements, type "NONE."

Signature and Address Block: Ensure that the bidder completes this block and provides an address.

(Alternative 2 for the traditional approach to sales or the sale of logs from a depot)

Block 10b – Minimum Acceptable Bid per Cubic Foot: Complete for all contracts prior to sending to prospective bidders.

Block 10c – Bidder's Bid per Cubic Foot: To be completed by bidder.

Block 11: Include in all contracts.

Block 12: Include in all contracts, but choose the appropriate paragraph and delete the other paragraph.

Blocks 13 through 15: Include in all contracts.

Block 16 – Other Requirements That Bidder Must Meet: Type in any other requirements that the bidder must meet. For example, bidding may be open only to members of the Community Forest User Group. If there are no other requirements, type "NONE."

Signature and Address Block: Ensure that the bidder completes this block and provides an address.

EXHIBIT 3.5–1 Bid for Timber Removal
(Alternative 1 for the cutting and removal of timber to a depot)

BID FOR TIMBER REMOVAL

1. Contract Number:	2. Date and Time of Bid Opening:	3. Opened by:	4. In the Presence of:
5. Contract Name:			6. Type of Bid: Sealed Bid
7. To: (Address for receiving bids)		8. Name of Newspaper:	9. Date Published:

In Response to the Notice of Contract published in the newspaper specified above, and subject to the conditions attached hereto, the following bid is submitted and shall constitute a Firm Offer.

10. Bid Information:

Contract Volume of Timber 10(a)	Cubic Feet
Bidder's Bid per Cubic Foot for Removal of Timber 10(b)	Nr

11. CONTRACT: The Bidder whose bid is accepted will, within 30 days of the award letter's date, execute a contract based on the sample contract referenced in the prospectus and otherwise complete the process described on this form and pages attached hereto.

12. FIRM OFFER: Bidder hereby agrees not to withdraw this bid after the time for receipt of bids. Signing this bid form binds the Bidder to accept award under the terms of the sample contract and this bid form if its bid is accepted.

13. TERMS OF BIDDER'S OFFER: Bidder certifies and represents that the Bidder has read and understands each and every provision of this bid form (together with any attachments thereto) and the sample contract. The Bidder agrees that it assumes the responsibility to clarify any questions before signing this form. The Bidder agrees that the written provisions of this bid form (together with any attachments) and the sample contract constitute the entire contract of the parties until a written contract is executed and neither the bid form (and any attachments) nor the sample contract can be orally modified. The Bidder expressly adopts the terms of this bid form and the sample contract as material parts of the Bidder's offer.

14. DISCLAIMER OF ESTIMATES AND BIDDER'S WARRANTY OF INSPECTION: Before submitting this bid, the Bidder is advised and cautioned to inspect the contract area, review the requirements of the sample contract, and take other steps as may be reasonably necessary to ascertain the location, estimated volumes, construction estimates, and operating costs of the contract. Failure to do so will not relieve the Bidder from responsibility for completing the contract.

The Bidder warrants that this bid/offer is submitted solely on the basis of its examination and inspection of the contract area and is based solely on its opinion of the value thereof and its costs of recovery. The Bidder further holds the Seller harmless for any error, mistake, or negligence regarding estimates.

15. OTHER REQUIREMENTS THAT BIDDER MUST MEET:

Review the attached Instructions to Bidders and fill in the applicable blank in box 10(b) before signing.

Name of Bidder: (Type or Print)	By: (Signature in Ink)
Title: (Type or Print)	Date:
Business Address: (Type or Print)	

EXHIBIT 3.5–2 Bid for Advertised Timber
(Alternative 2 for the traditional approach to sales or the sale of logs from a depot)

BID FOR ADVERTISED TIMBER			
1. Contract Number:	2. Date and Time of Bid Opening:	3. Opened by:	4. In the Presence of:
5. Contract Name:			6. Type of Bid: Sealed Bid
7. To: (Address for receiving bids)		8. Name of Newspaper:	9. Date Published:

In Response to the Notice of Contract published in the newspaper specified above, and subject to the conditions attached hereto, the following bid is submitted and shall constitute a Firm Offer.

10. Bid Information:

Contract Volume of Timber 10(a)	Cubic Feet
Minimum Acceptable Bid per Cubic Foot 10(b)	Nr
Bidder's Bid per Cubic Foot 10(c)	Nr

11. BID ALLOCATION: The Bidder's bid will be allocated to different species in proportion to each species' value, so that the total bid remains unchanged. The purpose of such allocation shall be to provide rates for additional volume that may be added to the contract and to estimate the current contract rates for payment units.

12. CONTRACT: *(Use this paragraph for sales of logs from a depot)* The Bidder whose bid is accepted will, within 30 days of the award letter's date, execute a contract based on the sample contract referenced in the prospectus and otherwise complete the process described on this form and pages attached hereto.

12. CONTRACT: *(Use this paragraph for the traditional approach to sales)* The Bidder whose bid is accepted will, within 30 days of the award letter's date, execute a contract based on the sample contract referenced in the prospectus. Simultaneously, Bidder shall furnish a satisfactory performance bond, in accordance with the provisions of such contract, in the penal sum as prescribed in the prospectus for this contract, and otherwise complete the process described on this form and pages attached hereto.

13. FIRM OFFER: Bidder hereby agrees not to withdraw this bid after the time for receipt of bids. Signing this bid form binds the Bidder to accept award under the terms of the sample contract and this bid form if its bid is accepted.

14. TERMS OF BIDDER'S OFFER: Bidder certifies and represents that the Bidder has read and understands each and every provision of this bid form (together with any attachments thereto) and the sample contract. The Bidder agrees that it assumes the responsibility to clarify any questions before signing this form. The Bidder agrees that the written provisions of this bid form (together with any attachments) and the sample contract constitute the entire contract of the parties until a written contract is executed and neither the bid form (and any attachments) nor the sample contract can be orally modified. The Bidder expressly adopts the terms of this bid form and the sample contract as material parts of the Bidder's offer.

15. DISCLAIMER OF ESTIMATES AND BIDDER'S WARRANTY OF INSPECTION: Before submitting this bid, the Bidder is advised and cautioned to inspect the contract area, review the requirements of the sample contract, and take other steps as may be reasonably necessary to ascertain the location, estimated volumes, construction estimates, and operating costs of the contract. Failure to do so will not relieve the Bidder from responsibility for completing the contract.

The Bidder warrants that this bid/offer is submitted solely on the basis of its examination and inspection of the contract area and is based solely on its opinion of the value thereof and its costs of recovery. The Bidder further holds the Seller harmless for any error, mistake, or negligence regarding estimates.

16. OTHER REQUIREMENTS THAT BIDDER MUST MEET:
Review the attached Instructions to Bidders and fill in the applicable blank in box 10(c) before signing

Name of Bidder: (Type or Print)	By: (Signature in Ink)
Title: (Type or Print)	Date:
Business Address: (Type or Print)	

EXHIBIT 3.5–3 Bid for Advertised Timber
(Used with either 3.5-1 or 3.5.2)

INSTRUCTIONS TO BIDDERS

1. **BIDDER'S QUALIFICATIONS:** Before a bid is considered for award, the Bidder may be required to submit a statement regarding the Bidder's previous experience in performing comparable work and financial resources.

2. **PREPARATION OF SEALED BIDS:** Bids shall be manually signed. Bid price shall be entered in the "Bidder's Bid per cubic foot" block. If erasures or other changes appear on the form, the person signing the bid must initial each erasure or change.

3. **SUBMISSION OF SEALED BIDS:** Sealed bids must be submitted to the Contract Officer, designated by the advertisement as the receiving officer at, or prior to, the time established by the advertisement. Such bids must be enclosed in a sealed envelope addressed to the designated receiving officer. The envelope should show on the outside (a) that it is a "Bid for a Contract," (b) the contract name or number, and (c) the date and time of opening bids, as shown by the advertisement. Bids received after the time specified in the contract advertisement are late bids and will not be considered, unless they are the only bid.

4. **PUBLIC OPENING OF SEALED BIDS:** Sealed bids will be publicly opened and posted at the time and place set for opening in the advertisement.

5. **AWARD OF CONTRACT:** Award of the contract will be made to that responsible Bidder whose bid, conforming to the invitation for bids, is most advantageous. The Contract Officer may, when in its interest, reject any or all bids or waive any informality in bids received. A written award mailed (or otherwise furnished) to the successful Bidder shall be deemed to result in a binding contract without further action by either party.

CONDUCTING THE AUCTION

This activity includes accepting bids and determining the successful bidder. The purpose is to determine which qualified bidder has submitted the most advantageous bid.

An open and transparent bidding process is essential. The people in the community and the bidders must be confident that bidding, review of bids, and selection of the best bid is unbiased and fair.

Bid Custodian

The bid custodian is a person delegated responsibility for receipt and custody of sealed bids. All bids received before the time set for the opening of bids shall be kept secure. Before the time set for the opening of bids, the bid custodian shall not divulge to anyone any information concerning the number of bids received or whether any bids have been received. However, upon request of a bidder, the bid custodian may acknowledge receipt of that bidder's sealed envelope. Similarly, before the time for opening bids, it is prohibited for any person with knowledge of any bid submitted by hand or with knowledge of the making, amendment, or withdrawal of a bid by mail to make any statement to anyone concerning that bid; except that the bid custodian may acknowledge receipt to the submitter, if requested. Maintain the same confidentiality for oral statements of intent to bid.

If a sealed bid is opened by mistake, the envelope must be signed by the opener, whose position must be written thereon, and delivered to the bid custodian. The bid custodian shall immediately

write on the envelope: (a) an explanation of the opening, (b) the date and time opened, and (c) the contract name and date of bid opening, and shall sign the envelope.

Bidders

Bidders usually submit sealed bids by mail or deliver them by hand. Accept all bids that are received within the advertised time limits.

If a bidder alleges a mistake in a sealed bid or wishes to change a bid for any reason prior to the time set for bid opening, the bidder may recall the bid and correct or withdraw the bid or substitute another bid. The bidder may not modify the bid after the exact time set for opening of bids. A bid may be withdrawn in person by a bidder before the exact time set for opening of bids, if the bidder signs a receipt for the bid.

Late Bids

Consider a bid late if it is received at the designated office after the exact time stated for opening in the advertisement. Allow consideration of a late bid only if receipt occurs before contract award and the contract officer determines that the late receipt was due to mishandling after receipt by the designated office. The only acceptable evidence to establish the time of receipt is the time and date stamp on the bid envelope. If the contract officer cannot consider a late bid for award, the contract officer shall promptly notify the bidder by letter that the bid was received late and cannot be considered.

Late bids that are not considered for award must be held unopened until after award and then retained with other unsuccessful bids.

Opening Bids

A contract officer is an individual delegated the responsibility for the bidding or awarding process for contracts. The contract officer shall determine when the time set for bid opening has arrived and shall inform those present. At the time set for bid opening, the bid custodian shall deliver the bids received to the contract officer.

Sealed bids received at the place and by the date and hour of the bid opening designated in the advertisement shall be personally and publicly opened by the designated contract officer. The contract officer shall disclose receipt and number of bids to the persons present at the bid opening. Any bidder and any member of the public should be allowed to attend the bid opening. The contract officer and the witnesses shall sign and note the time and date on the bid. There should be the contract officer, bid custodian, and at least one independent witness who is not one of the bidders present.

Reviewing and Posting the Bids

The Contract Officer should review each bid for completeness. After reviewing them for completeness, the Contract Officer should post the bids, which includes

1. Read the bids aloud to the persons present;
2. Have the bids recorded; and

3. Determine the apparent high bidder.

Do not post incomplete bids. A bidder cannot be allowed to modify, change, or explain the meaning of a bid after the exact time set for opening of the bids. A bidder cannot be contacted to make corrections, except for correcting the bidder's business address. The contract officer shall safeguard the original of each bid. Allow bidders or other interested parties to inspect posted bids under the supervision of the contract officer, but do not allow the removal of the original bid from the bid opening site.

Contract Award

This activity involves the work items that follow the determination of a successful bidder. Included are the determination of bidder qualifications and the contract award. The purpose of contract award is to provide prompt award of a contract to ensure protection of the best interests of the community.

The contract officer designates the apparent high bid and initiates the actions necessary to award the contract. They may also consider whether the rejection of all bids serves the interests of the community and has a logical, rational basis.

Making the Tentative Contract Award

The contract officer may tentatively award the contract to the bidder whose bid is most advantageous for the community. This would be the high bid for sale contracts and the low bid for service contracts. The submitted bids should be retained as part of the contract file and be made available for review by any interested party.

Make a tentative award orally to the apparent high bidder, if present. Document that the final award will be made by letter and that there will be concurrent execution of the contract by both parties. Send a letter of notification to the apparent high bidder. Include a copy of the contract for the bidder's signature and require them to return the signed copy, along with the performance bond if required.

Normally, the highest bidder's firm offer remains in effect for 30 days from the date of the bid opening. Consider a contract to be repudiated when a contract is not consummated because the bidder failed to execute the contract and provide a performance bond. If the highest bidder repudiates the contract, preclude them from bidding on other contracts for one year.

Making the Contract Award

Before contract award, a determination of bidder responsibility should be made. If necessary, require the bidder to provide information to assist in the determination of responsibility. If the bidder is known, and known to be responsible, this determination may simply be documented. To determine a bidder to be responsible, it should be found that

1. The bidder has adequate financial resources to perform the contract or the ability to obtain them;
2. The bidder is able to perform the contract within the contract term, taking into consideration all existing contracts;
3. The bidder has a satisfactory performance record on contracts;

4. The bidder has a satisfactory record of integrity and business ethics;
5. The bidder has or is able to obtain equipment and supplies suitable for logging the timber and for meeting the resource protection provisions of the contract; and
6. The bidder is otherwise qualified and eligible to receive an award under applicable policies, laws, and regulations.

The contract officer or other individual that the Community Forest User Group Committee selects should sign the contract and make the final award after the successful bidder has been determined to be responsible and has signed and returned the contract and provided a performance bond, if required. The removal of any trees or logs must not start until the contract has been signed and the volume has been paid for.

The award date on the contract must be the date that the Contract Officer signs the award letter. The award letter should

1. State that the contract is awarded;
2. Return a signed copy of the contract;
3. Identify who has responsibility to administer and enforce the contract; and
4. Request any payments that are necessary prior to operations.

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WHILE FORESTS ARE AMONG NEPAL'S MOST IMPORTANT NATURAL RESOURCES, AND NEPAL HAS BEEN A WORLD LEADER IN THE COMMUNITY FORESTRY APPROACH, NEPAL'S FOREST INSTITUTIONS HAVE PARTIALLY FAILED TO DELIVER ON THE FORESTS' POTENTIAL FOR SUSTAINABLE ECONOMIC DEVELOPMENT AND POVERTY REDUCTION. THIS STUDY ASSESSES THE FRAMEWORK THAT PERPETUATES POOR FOREST SECTOR PERFORMANCE BY EXAMINING THE EFFECTIVENESS OF INCENTIVES, GOVERNANCE AND RESOURCE MOBILIZATION ARRANGEMENTS.

IT PROVIDES A SET OF PERSPECTIVES TO HELP FRAME A STRONGER AND MORE CONCLUSIVE DISCUSSION OF ISSUES, PRIORITIES AND OPTIONS FOR PUBLIC POLICY, INSTITUTIONAL REFORMS AND INVESTMENT. THIS VOLUME ALSO INCLUDES A DETAILED OVERVIEW OF CONTROL PROBLEMS CURRENTLY ENCOUNTERED IN THE SALE OF TIMBER FROM COMMUNITY-MANAGED FORESTS IN THE TERAI FORESTS, AND GUIDELINES FOR CONTRACT PREPARATION AND ADMINISTRATION.

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